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Nov. 30. 1852

AN

ACCOUNT

OF THE

DISEASES,

NATURAL HISTORY,

AND

MEDICINES

OF THE

EAST INDIES.

PARKES MUSEUM
31 — B.
COLL. LOND.

TRANSLATED FROM THE LATIN OF

JAMES BONTIUS,

Physician to the Dutch Settlement at Batavia.

TO WHICH ARE ADDED

ANNOTATIONS

BY A PHYSICIAN.

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PREFACE.

THERE never was a time when the peculiar circumſtances of foreign climates ſo much merited the attention of a commercial people, as, at preſent, the Natural Hiſtory and Diſeaſes of the Eaſt Indies. Theſe being profeſſedly treated of by Bontius, it was apprehended, that a tranſlation of that valuable author would be a work of public utility, calculated, not for the benefit of the faculty alone, but of all thoſe who either reſide in, or viſit the oriental countries, as containing the moſt important precepts for the prevention of endemial

diſeaſes, as well as the method of cure.

Concerning the tranſlation it is ſufficient to ſay, that no other liberty has been uſed, than lopping off a few trifling redundancies, and changing the arrangement of the ſubject into an order which appeared more natural. The freedom of the tranſlator might perhaps have been extended, with indulgence, to the alteration of ſome preſcriptions and theoretical opinions, which may now be regarded as obſolete. But as moſt of the medicines are indigenous in the Indies, it ſeemed more eligible to retain them on the authori-

ty of the author, than ſacrifice his faithful obſervations of their effects, to the temporary and inconſtant modes of practice. With regard, however, to the few obſolete opinions which occur, though theſe alſo are preſerved in the tranſlation, they are remarked in annotations. And in order to render the publication more complete, an account is added of the nature and cure of ſuch diſeaſes as have been omitted by the author.

The whole is ſubmitted to the public, as a work, in many parts, no leſs curious and entertaining, than faithful, uſeful and important.

DEDICATION.

TO THEIR

EXCELLENCIES THE DIRECTORS

OF AFFAIRS IN THE

EAST INDIES.

ALMOST three years are now elapſed, honourable gentlemen, ſince firſt I devoted my medical labours to your excellencies; which on my arrival in your Indies, I began to exert with activity, to demonſtrate my endeavours, that the emoluments you have conferred upon me ſhould be productive of public advantage. What obſervations, therefore, I made in my practice through the day, theſe at night, when more diſengaged from cares, I committed to paper, and now make public, as a ſmall return for the many obligations I lie under to your excellencies, and which I never can fully repay. From the obſervations which appeared to me the moſt important, I have compiled this method of cure, and deſcribed the diſeaſes

which I found to be popular and endemic. Nor have I delivered any curative precept, the utility of which I dare not boldly affirm to have been firſt aſcertained by experience. Let others who pleaſe write of miracles on hearſay; I ſhall only propoſe to your attention what I have ſeen with my eyes, and what my judgment, ſuch as it is, has been repeatedly convinced to be true. Which as none of our Batavians, as far as I know, has performed, nor even ſo much as attempted before me, it is highly proper that I, who come the firſt upon the ſtage, and have to dread the attacks of the malevolent, ſhould crave the patronage of your excellencies, by which, as a ſhield, my labours may be protected. And what more indulgent patrons could I hope to find, than you, honourable gentlemen, who have hitherto loaded me with your favours, and, if continuing your partiality, will give me ſpirit and vigour to attempt undertakings more arduous, and deſerving of your regard? And if I am ſpared, I hope to ſhew myſelf not unworthy of the ſacred diſpenſation of phyſic intruſted to my care. In the mean time, honourable gentlemen, deign to accept this ſmall paper preſent, all I can afford, with that diſpoſition in which I have inſcribed it to your excellencies, and in which I ſtill ſincerely lay myſelf and all my ſervices at your devotion. Which I ſhall

make farther appear, when I have finiſhed my commentaries on the ſhrubs, trees and herbs which grow in Java: and ſhall ſhow that others, whoſe names, however, are celebrated among the learned, have treated of this ſubject too ſuperficially. Farewel! honourable gentlemen, and may Almighty God long preſerve you for the proſperity of your growing Batavia, and the glory of the Indian empire,

NEW BATAVIA,
Nov. 19, 1629.

Your Excellencies moſt

devoted Servant,

JAMES BONTIUS.

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AN ACCOUNT OF THE DISEASES, NATURAL HISTORY, AND MEDICINES OF THE EAST INDIES.

CHAPTER I.

Of a particular kind of Palsy, called, The Barbiers.

THE inhabitants of the East Indies are much afflicted with a troublesome disorder which they call the Beriberii (a word signifying a sheep). The disease has, probably, received this denomination on account that those who are seized with it, from a tottering

of the knees, and a peculiar manner of walking, exhibit to the fancy a repreſentation of the gait of that animal. It is a ſpecies of palſy, or rather a tremor: for, at the ſame time that it impairs the ſenſation of the feet and hands, and ſometimes even of the whole body, it induces a trembling. The principal cauſe of this diſeaſe is a thick, viſcid, pituitous humour, which ſeizes the nerves in the night, when people, afer being fatigued by the heat of the day, unwarily throw off their bed-cloaths. It is more eſpecially the product of a rainy ſeaſon; and ſuch is conſtantly the ſtate of the weather in this climate from the beginning of November till May.

In this diſorder, the limbs are lengthened, not ſhortened, the phlegm inſinuating itſelf into the joints ſo as to relax the nerves and ligaments. In general, the diſeaſe invades ſlowly: but upon a perſon's drinking a large draught of the Palma Indica* when he is heated, the attack of it is, ſometimes, extremely ſudden; in the ſame manner, as we have obſerved in our own country, that when people had drank immoderately of beer or

* The cocoa or cocker-nut-tree, whoſe nuts contain a milky liquor of a cooling quality, much drank of by the Indians.

whey, when heated by running or any other violent exerciſe, they have incurred the greateſt danger, and even death itſelf.

Among the chief ſymptoms of this diſeaſe, is a laſſitude of the whole body. The motion and ſenſation, eſpecially of the feet and hands, are languid and depraved ; and, for the moſt part, a titillation is felt in theſe parts, ſimilar to what ſeizes them in cold countries in the winter; but with this difference, that the ſenſation in the Barbiers is more painful. The ſpeech is, ſometimes, ſo much obſtructed, that the patient can ſcarce pronounce a ſyllable articulately : which happened to myſelf in this diſorder, when for a whole month my voice was ſo weak, that people, who ſat cloſe to me, could with difficulty underſtand what I ſpoke. Beſide theſe, there are many other ſymptoms, which, however, all confirm the exiſtence of a cold and viſcid humour.

The cure of this diſorder is generally very tedious ; the humour being difficult to reſolve. For the moſt part, however, it is not mortal, unleſs it ſeizes the muſcles of the breaſt and thorax, and thereby ſtop reſpiration. Lying in bed ſhould be avoided as much as poſſible ; and the patient ought to walk, ride on horſeback, and uſe all the harder ſorts of exer-

ciſe; but to run he is unable. Strong, and even painful friƈtions are highly neceſſary, which are very conveniently performed by the Bengal and Maldivian ſlaves. Fomentations and baths made of the noble herb *Lagondi**, are alſo extremely advantageous. This herb reſembles the water-pepper in the leaf, and is of a ſweet and aromatic flavour. It is not ſo much uſed in medicine as camomile and melilot, but, in my opinion, it excels them in its diſcutient and reſolving quality. The feet and hands ought to be anointed with the oil of cloves and mace, mixt, however, with the oil of roſes; for, when applied alone, they are too cauſtic, and eaſily erode the ſkin. Beſide theſe, we have, brought from Sumatra, an excellent kind of naphtha, called, by the Indians, minjac tannah (oil of earth), which, like the naphtha known in Europe by the name of ol. petræ, ſprings out of the earth, or drills into lakes and rivers from the contiguous rocks. This oil is held in ſo much eſteem by the barbarians, that the king of Achen, the moſt powerful prince in that iſland, has prohibited the exportation of it under capital puniſhment; ſo that when any foreign veſſel takes ſhelter on that

* Eaſtern Privet.

coaſt in ſtormy weather, it is common for the inhabitants to bring of it ſecretly to the ſhip under night. This oil, when rubbed upon the parts affected by the Barbiers, affords wonderful relief. It has a heavy ſmell, but not diſagreeable *.

If the diſorder is chronical and of long ſtanding, nothing is more effectual than decoctions of china, ſarſaparilla, and guaiac, which, by their mild and friendly warmth, attenuate the cold viſcid humours, and diſcharge them by ſweat and urine. During this courſe, however, proper purges ſhould be interpoſed; among the beſt of which is the extract made of aloes and gamboge (vulgarly called, with us, gutta gamba) of which I ſhall afterwards give a deſcription.

Bleeding is hurtful: for the fault lies not in the quantity, but the quality of the humours: and who knows not the blood to be the fountain of heat, and the treaſure of animal life?

To complete the cure, medicines which promote ſweat and urine, and ſtrengthen the nerves,

* The genuine naphtha, or oil of earth, is eſteemed one of the fineſt and moſt penetrating of all the bituminous ſpecies: but what is imported into Europe under that name, is ſaid to be a compoſition of the expreſſed oil of the cocoa-nut, and medicated earths.

ſhould be adminiſtered; ſuch as theriac, mithridate, &c. joined with proper exerciſe *.

* The Indians have a method of putting the patient into a hole dug in the ground, and covering him with ſand up to his neck. This is performed in the middle of the day, and he remains there as long as he can bear the heat of the ſand. Camphire and a decoction of guaiac-wood have been found beneficial in the Barbiers: but nothing is of ſo great advantage in the cure as a removal into another air; without which expedient, notwithſtanding the uſe of the moſt powerful nervous medicines, the patient generally continues paralytic for ſome months.

This diſeaſe is moſt violent and frequent on the Malabar coaſt, where, eſpecially during the months of December, January, February, and March, it attacks thoſe who unwarily ſleep expoſed to the land-winds, which iſſue every morning, about ſun-riſe, from the neighbouring mountains; ſuddenly ſeizing them with a painful ſenſation in the periofteum of the arms and legs. In ſome perſons the pain abates as the day advances, and the air becomes warmer: but in others it continues for a conſiderable time, attended with a weakneſs of the knees, and uneaſy ſenſation in the calves of the legs and ſoles of the feet, eſpecially on any attempt to walk. It is ſcarce ever cured by medicine till after the ſhifting of the monſoon, unleſs the patients can be removed to the coaſt of Coromandel, or to any place on the eaſtward of the Balagat mountains, where, by the change of air, they quickly recover.

As no mention of the change of air is made by our au-

CHAPTER II.

Of the Spaſm.

THE diſorder of the Spaſm, almoſt unknown with us in Holland, is ſo common in the Indies, that it may be reckoned among the popular and endemic diſeaſes of the country. The attack of it is ſometimes ſo ſudden, that people become in an inſtant as rigid as ſtatues; while the muſcles, either of the anterior or poſterior part of the body, are involuntarily and violently contracted. A terrible diſorder! which, without any primary defect of the vital or natural functions, quickly precipitates the wretched ſufferer, in excruciating torment, to the grave; totally deprived of the capacity of ſwallowing either food or drink. There are, likewiſe, other partial Spaſms of the limbs: but theſe being more

thor, it is probable that the unhealthy climate of the country adjacent to Batavia, and the inconvenience of removing farther, had prevented him from trying the effects of emigration in this diſeaſe.

gentle and temporary, I ſhall not treat of them.

People affected with this diſorder look horribly into the face of the by-ſtanders, eſpecially (as often happens) when the cynic ſpaſm comes on; and both the cheeks are drawn in convulſion towards the ears. A red and green colour is reflected from the eyes and face; the teeth gnaſh; and inſtead of the human voice, a rude ſound iſſues forth of the throat, as if heard from a ſubterraneous vault; ſo that to thoſe unacquainted with the diſorder, the perſon appears to be demoniac.

The cure of this diſeaſe ought to begin with plentiful bleeding *: after which, frictions and ſtrong ligatures ſhould take place; as alſo embrocations of the oil of mace, mixt with the oil of aniſe or roſes; and laſtly, the oil of turpentine and Indian ſpikenard, which the iſland Java produces in abundance. Large cupping glaſſes, without ſcarification, are likewiſe to be applied

* The practice of bleeding in this diſorder, though apparently neceſſary for preventing the conſequences which may ariſe from ſo violent and general a conſtriction of the muſcles, is affirmed, from later experience, to be rather of prejudice than utility, unleſs the patient is of a plethoric conſtitution, or a fever ſupervenes.

to the neck, loins, ſhoulders, and breaſts, by which a repulſion of the ſerous and bilious humour will be made from the muſcles and nerves.

If by theſe applications the violence of the paroxſym ſhould abate, and the patient recover the power of ſwallowing, antidotes ought to be adminiſtered in a liquid form, which may correct the poiſonous quality of the humours, and evacuate them by urine or ſweat. Such are the lapis bezoar, raſura cornu rhinocerotis, mixed with theriac, mithridate, &c. Emetics, likewiſe, are then to be taken, of infuſions of gamboge, hepar antimonii or crocus metallorum. In a word, this is a diſeaſe ſo rapid, acute, and dangerous, that it admits of no procraſtination, and every poſſible method of cure ſhould be carried into immediate experiment. But if the diſorder increaſes, or continues ſo violent, that the patient is incapable of deglutition, the belly is to be opened by clyſters of the moſt ſtimulating kind, ſuch as the following :

℞

Herbæ lagondi dictæ
Abutali Avicennæ

Biſmalvæ āā m. i.

Sem. Aniſi

Fœniculi

Cumini

Anethi āā ʒii.

Coque in q. ſ. aq. fluvii, & colaturæ, ℔ i. Adde

Pulv. colocynthidis ʒſs.

Sal. ammoniaci vel nitri ʒi.

Electar. R. Bontii (infra deſcripti) ʒi.

Sem. ol. anethi ʒiii. m. f. Enema.

The perſon is afterwards to be anointed with the oils above mentioned, and the naphtha of ſumatra, or minjac tannah. Baths, likewiſe, and fomentations are to be made of the herb lagondi, and the leaves of a ſhrub called davullontas, which grows to the height of a man, with a leaf divided in the edge, and in flavour nearly reſembling balm. Theſe leaves, by an anodyne and ſpecific kind of quality, are peculiarly adapted to this terrible diſorder, and aſſuage the racking pain which ariſes from the contraction of the nerves *. The lapis and ſal prunellæ, taken in-

* Beſides the herbs here mentioned, the ingredients commonly uſed in Europe for emollient fomentations, with the

wardly, are incomparably uſeful; evacuating the bilious matter by a plentiful flow of urine, and gently cooling the blood where any feveriſh heat is attendant. Above all, particular regard is to be had to the violence of the pain, which is ſo urgent a ſymptom, that anodyne applications are of more immediate neceſſity, than thoſe which affect even the primary cauſe of the diſorder. For that purpoſe the laudanum quercetani is extremely proper, as likewiſe philonium ſine Euphorbio, but chiefly the extract of ſaffron, which ſhall aftewards be deſcribed. Some, perhaps, may inſiſt that theſe remedies ought not to be uſed, as being injurious to the nerves by their ſtupifying and narcotic quality: but however ſpecious that argument may at firſt ſight appear, it is abſolutely void of foundation: for, beſides that the great heat of the climate authoriſes the uſe of narcotic medicines, it is certain, that without recourſe to them, in caſes of ſuch urgent extremity, the patients could not poſſibly ſurvive. Add to

addition of theriac, have been experienced highly advantageous, and even preferable to the *ſemicupium*, though that has been ſtrongly recommended by ſome authors.

It is almoſt unneceſſary to remark, that fomentations ought commodiouſly to precede the uſe of ointments.

this, that the opiates which we uſe in this country, are ſo duly prepared that they may be ſafely adminiſtered even to infants: and in fact, were it not for theſe valuable medicines, we might abandon every phyſical application in all the hot diſeaſes of this country: which affirmation, though it may appear unwarrantable to the unexperienced in ſuch practice, I am confident, on future obſervation, will be univerſally acknowledged to be juſt *.

In regard to the regimen, it is a matter of no great importance: for the extreme violence, and

* The unanimous teſtimony of modern practitioners confirms this aſſertion of our author; the rectitude of which is ſo clearly aſcertained by experience, as to juſtify the moſt reſolute and liberal preſcription of narcotic medicines that occurs in all phyſical diſpenſation. Authentic caſes of the various ſpaſms are recorded, wherein a ſcruple of opium has been adminiſtered in the ſpace of twenty four hours; which, though it ſuſpended for a time, and a periodical repetition of it in the end overcame the diſeaſe, neither induced a ſtupor, nor procured an uninterrupted ſleep of three hours. Muſk likewiſe has been joined to opium with great ſucceſs. And we are informed of a caſe of the opiſthotonos at Haſlar Hoſpital, where opium and camphire, laid to the feet, inſtantly and repeatedly removed the ſpaſm, which always returned with its former violence when the application was withdrawn.

rapid progreſs of the diſeaſe ſupercede all deliberate procedure: but when the rigor of the paroxſym begins to abate, broths made of fowls, kid, and veal, ſhould be uſed, wherein cardamoms and tamarinds, produced abundantly in java, are boiled, which will ſerve both for food and medicine*.

* It deſerves to be remarked, that the practice recommended by our author in this chapter, is, upon the whole, too general and indiſcriminate; and inapplicable to the various cauſes productive of the opiſthotonos, emproſthotonos, tetanos, and locked jaw. The diſeaſe of the ſpaſm is the moſt defective in its hiſtory of any which we meet with in this diligent and diſcerning phyſician. He has not related ſuch facts and obſervations as were neceſſary to form his own opinion of the origin and nature of the diſeaſe, or might ſerve to direct the judgment of others. But it is not to be ſuppoſed, that he comprehends in his deſcription any idea of thoſe ſpaſms which proceed from a wound, or puncture, and the rigor of extreme and ſudden cold. It is manifeſt that the method of cure he proſecuted was intended for the expulſion of ſome acrid and irritating matter: and though his conception of its origin was vague and undetermined, nor ſupported by any principle which could account for its production, yet it ſeems not intirely deſtitute of plauſibility, ſince it is known, that in the torrid zone young children are ſubject to the ſpaſm from irritating humours in their bowels. But however imperfect our author's account of the ſpaſm may

CHAPTER III.

Of fluxes of the Belly; and firſt of the true Dyſentery.

SINCE in this country, as well as with us, there are various kinds of fluxes of the belly, I ſhall here treat of each ſpecies; tracing the ſituation of the parts affected, inveſtigating the cauſes, and from theſe, and the obſervation of the ſymptoms, elucidate the method of cure. And firſt, of the true Dyſentery, that horrible and deſtructive diſeaſe, which cauſes greater devaſtation in the Indies than any other malady whatever.

The true Dyſentery, then, is an ulceration of the inteſtines with a perpetual purging, at firſt, mucous, afterwards bloody, and laſtly, purulent, intermixed with the very ſubſtance of the bowels,

be reckoned, and however unſuitable or inadequate his general precepts to particular caſes, it muſt be acknowleged, that, in his ultimate recourſe to opium, he proceeded upon the moſt rational and auſpicious principle, and has the merit of recommending a practice which experience confirms to be ſalutary.

with intolerable pain and griping of the belly. This diſorder is partly induced by a warm and moiſt air: which leads me to remark the error of a pretty general opinion, that on account of the proximity of the equator, the temperature of this climate is hot and dry. Among many other arguments which might be advanced in refutation of this notion, one is unanſwerable: which is, that ſteel, iron, and alſo braſs, ſooner contract ruſt or verdigriſe, even in the drieſt ſeaſon of the year, when not a drop of rain falls in this country, than in the wetteſt autumns in our own. Beſides, the fruits here greatly contribute to the diſeaſe: which if a perſon is not extremely cautious of eating, and takes without rice, or bread and a little ſalt, he ſcarcely can eſcape the diſorder: juſt as in France and Spain, where people, who eat much grapes without bread, are immediately ſeized with a Diarrhœa or Dyſentery. The fruits here are theſe: the Indian fig, which the natives call bananas and piſang. Garcias ab Orta, and Proſper Alpinus, call it muſa. Next, the duriones, jacas, ananas, cucumbers, water-melons, &c. of which a deſcription may be found in Garcias, and Joannes a Linſchoten. Theſe, beſides their being green fruits, are injurious to the temperament by their heat and humidity. Melons and cucumbers,

indeed, may be excepted from the former imputation, but they are highly obnoxious to the latter. But the principal cauſe of this diſeaſe, is the drinking an inflamatory liquor, Arac, which the Chineſe make of rice and the holothuria, or what in Holland we uſed to call *quabben* or *quallem*. Theſe holothuria have ſo pungent a heat, that the touch of them ulcerates the ſkin, and raiſes veſicles. Happy were it for our ſailors that they drank more moderately of this liquor: the plains of India would not then be protuberant with the innumerable graves of the dead.

As to the cure, the common remedy is an infuſion of rhubarb in decoction of tamarinds, to evacuate (as they ſay) and attemperate the acrid fluids. But it deſerves to be remarked, that this remedy is not only often unſucceſsful, but that ſometimes it cauſes certain deſtruction, when the extremely acrid bile is luxuriant: and there is danger of its being irritated by the gentleſt laxative, and driven with greater violence towards the ſeat of the diſorder, to the incredible torment of the ſick, and often his inevitable ruin. Add to this the extreme weakneſs which is frequently induced by the Dyſentery, and rather requires reſtoratives than purging. Here, therefore, it behoves the phyſician to proceed with the greateſt circum-

ſpection: and in that ſentiment I ſhall now preſcribe what I have found, from long experience, to be the moſt ſucceſsful method of practice.

Let the common drink, then, be a decoction of rice, which the Indians call caudgie, with endive and ſuccory: adding, likewiſe, the hart's tongue, or phyllitis, which grows plentifully here about the rivers, and at the ſame time that it ſtrengthens the liver and inteſtines by its aſtringent quality, corrects the acrimonious and raging bile.

But if the ſeverity of the pain ſhould not admit of ſo ſlow a regimen, recourſe muſt immediately be had to the extract of ſaffron, than which (I dare affirm) a more excellent remedy was never diſcovered by mankind; and I am fully perſuaded that it is the moſt perfect antidote againſt this diſeaſe, even when of a malignant kind. It is not my intention to enumerate a large tribe of medicines; I would reſtrict myſelf to ſuch as not only from their obvious qualities, but the congruity of their ſubſtance, are adapted to this cruel diſorder: and theſe abound in this country. Thoſe fruits which we call mangos, and are commonly pickled, are highly uſeful in this diſeaſe, on account of their acidity and aſtringency. When unripe, likewiſe, they are boiled with eggs, after the manner of the grapes in Holland: nor could a

perſon, though of the moſt exquiſite taſte, eaſily diſtinguiſh the difference. A preſerve is alſo made of them, like that of our quinces, for which it is a ſubſtitute, and I queſtion if not ſuperior. For ſtrengthening the bowels ſtill more, the ſyrup of pomegranates newly taken from the tree, is of great advantage in the Dyſentery; as are alſo the flowers of them preſerved.*

* Various and violent methods have been attempted for the cure of the Dyſentery; and after exhibiting a long and diſtreſsful courſe of emetic and purgative medicines, the general practice has at length conformed to the propriety of moderate evacuations. Bleeding being premiſed, or omitted, as judged neceſſary, a few grains of ipecacoan by way of vomit, at the beginning, with the occaſional uſe of ſome gentle cathartic to carry off the acrid humours, and obviate the too aſtrictive effects of the ſubſequent remedy on the inteſtines; we muſt ſubſcribe, with our author and the judicious Sydenham, to the ſovereign efficacy of repeated opiates, as the only advantageous reſource. With theſe the bark is to be joined, in the ſtate of convaleſcency; and we are informed that the uſe of the cold bath, in all hot countries, contributes greatly to a perfect re-eſtabliſhment of health.

CHAPTER IV.

Of the Hepatic Flux.

THE Hepatic flux of the belly, though no leſs dangerous than the Dyſentery, is, however, not attended with ſymptoms equally ſevere: there never being an excoriation of the inteſtines nearly ſo conſiderable, and ſometimes none at all. For in this caſe, the blood is generally diſcharged pure and unmixed, either on account of the retentive faculty of the liver being impaired, or the acrimony of the blood opening the mouths of the veſſels per anaſtomoſin, or laſtly from its quantity diſtending the meſeraic veſſels, whence it is poured into the inteſtines, and diſcharged by ſtool; which latter kind is the leaſt dangerous of all the hepatic fluxes, and often more formidable than hurtful. If the cauſe is an acrimony of blood, the colder decoctions ſhould be uſed, made of the ſeeds of cucumbers, gourds, citruls, common pumpions, and water-melons, of all which there is here the greateſt plenty. Of theſe likewiſe are made emulſions, electuaries, and powders, of great utility in this diſorder. For the revulſion of the peccant

humour, cupping-glaſes, with ſcarification, ſhould be applied to the loins and haunches, and preſerves of the above-mentioned diuretic fruits be made uſe of in diet.

But if the blood is in too great quantity, the median vein ſhould be opened without delay, proper regard, however, being had to the ſtrength of the patient: becauſe the people of this country, and eſpecially the ſick, on account of the heat of the climate, and the conſtant evaporation of the ſpirits, are diſpoſed to weakneſs. For this reaſon, I never adviſe bleeding unleſs in caſes of abſolute neceſſity, as our bodies, being ſoftened and relaxed by the heat, do not eaſily bear that evacuation*. It is otherwiſe with the ſtrong conſtitutions of the Portugueſe and inhabitants of Java, who being inured to heat, can admit of bleeding in great quantity. I ſpeak from experience. In every extremity, however, we muſt have recourſe to the extract of ſaffron, as the anchor of hope: of which valuable medicine I ſhall here ſubjoin the compoſition.

℞

Opii electiſſimi
Sang. dracon.
Gum. Benzoin.

* The author means the Dutch.

Croci oriental. āā partes æquales

Ambræ Japonicæ ſeu nigræ, partem tertiam;

Conjice in vas vitreum oblongi, & anguſti colli: adde aceti fortiſſimi ex vino, ut materiam ſeu maſſam in fundo ſuperemineat, tres, aut quatuor digitos. Vitrum bene clauſum exponatur radiis ſolaribus, qui nobis hic, propter fervorem, ſunt inſtar ignis chymici; colata hæc omnia & expreſſa fortiter, eodem ſole inſpiſſentur in conſiſtentiam extracti.

The doſe of this is from ſix to nine grains, taken in the form of a pill, or diſſolved in a ſpoonful of wine, or any other convenient liquor. It ought to be given chiefly at night, at which time, I have obſerved, that all the diſeaſes of the bowels are exaſperated in this country.

I deſignedly paſs over the Diarrhæa, and Lientery, or that flux which commonly ſucceeds a long continued Dyſentery, as they are ſufficiently known in our country, and the cure is much the ſame as in the former, and often conſiſts only in ſtrengthening the ſtomach and inteſtines. Of the other fluxes, however, I ſhall give an account.

CHAPTER V.

Of the Teneſmus.

THE Teneſmus is more dreaded in this country, than the Dyſentery, on account of the extreme uneaſineſs which attends it; and indeed, when it precedes that diſorder, it is generally mortal; becauſe all diſeaſes that increaſe by ſucceſſion, are likewiſe increaſed in virulence. But if it comes after the Dyſentery, the cure is more eaſy, as, then, it is only the remains of that diſeaſe, fretting the parts affected.

A Teneſmus is an ulceration of the inteſtinum rectum, with conſtant pain and a deſire of going to ſtool, when firſt, a little mucus, mixt with ſome drops of blood, and afterwards purulent matter is diſcharged. Whence our people very properly call this diſorder *den druyploop*, becauſe the peccant matter comes away by drops. When pregnant women are ſeized with the Teneſmus, they generally miſcarry, or are delivered before the due time. For the uterus, being ſituated between

the anus and the bladder, is excited by the continual irritation to expel the fœtus prematurely. For the ſame reaſon, a procidentia ani is frequently brought on, as are alſo the hæmorrhoids; and if the diſeaſe continues long, a dropſy, as I have often obſerved. Whence follows a decay of the body, and, after excruciating torments, death.

As this diſorder extends no farther than the inteſtinum rectum and anus, the cure of it conſiſts chiefly in clyſters, fomentations, and baths, prepared of emollient and detergent herbs. Such are the leaves of davullontas, and lagondi, abovementioned, marſh mallows, yellow mallows, the ſeeds of cummin, aniſe, fennel, &c.

When by the uſe of theſe the ulcer is ſomewhat cleanſed, and the pain become more eaſy, we ought to have recourſe to aſtringent fomentations, eſpecially if there is a procidentia ani. The materials for that purpoſe are harts-tongue, and the leaves of tamarinds, together with the fruit, and the leaves of bilingbing, mentioned above, which, in ſhape and magnitude, reſembles thoſe young cucumbers called, by the Portugueſe and Italians, agureas; than which a more acid fruit, the earth, I believe, never produced. For, if a perſon eats of them after his teeth have been ſet on edge by any other acid, the ſenſation is immediately obli-

terated; in the ſame way as an extreme acute pain deſtroys the perception of one leſs. I have principally mentioned theſe remedies, for the ſake of informing curious inquirers, that where the diſeaſes above-ſpoken of are endemial, there, the bountiful hand of Nature has profuſely planted herbs whoſe virtues are adapted to counteract them. I forbear inſiſting on the medicines which are known in our own country, as my chief intention is, to inſtruct thoſe lovers of phyſic, who either now practiſe with me, or ſhall ſucceed me in this remote part of the world. And would to God that the diſeaſe, by which I have been confined theſe four months, ſtill permitted me, as for long after I arrived here, to roam thro' the delightful circumambient woods of Java, and attain a more perfect knowledge of the many noble herbs which are to be met with in this country! In a future volume, however, I ſhall give the names of a great number of trees, ſhrubs, and herbs, that it abounds with. I ſhall, likewiſe, give you an account of birds and fiſhes (a ſubject I always was fond of) which are caught here; explain to you their nature, and ſhew what are their peculiarities, or in what they agree with thoſe of our own country. In the mean time, I ſhall conclude this chapter with that golden ſentence of Celſus, Lib. iv. c. xvi.

" As in all fluxes of the belly, ſo eſpecially in this (the Teneſmus) it is neceſſary that a perſon go to ſtool, not from inclination, but neceſſity, that this very delay may inure the inteſtines to a habit of ſuſtaining their burden."

CHAPTER VI.

Of the Cholera Morbus.

BESIDES the diſeaſes above treated of as endemic in this country, the Cholera morbus is likewiſe extremely frequent, to the account of which malady I ſhall devote the preſent chapter.

In the Cholera, hot, bilious matter, irritating the ſtomach and inteſtines, is inceſſantly, and copiouſly, diſcharged by the mouth and anus. It is a diſorder of the moſt acute kind, and, therefore, requires immediate application. The principal cauſe of it, next to a hot and moiſt diſpoſition of the air, is an intemperate indulgence of eating fruits; which, as they are generally green, and obnoxious to putrefaction, irritate and oppreſs the ſtomach by their ſuperfluous humidity, and produce an æruginous bile.

The Cholera might, with ſome degree of reaſon, be reckoned a ſalutary excretion; ſince ſuch humours are diſcharged in it as if retained would

prove prejudicial. However, as by ſuch exceſſive purgations the animal ſpirits are exhauſted, and the heart, the fountain of heat and life, is overwhelmed with the putrid effluvia, thoſe who are ſeized with this diſorder generally die, and that ſo quickly as in the ſpace of four and twenty hours at moſt.

Such, among others, was the fate of Cornelius Van Royen, ſteward of the hoſpital of the ſick, who being in perfect health at ſix in the evening, was ſuddenly ſeized with the Cholera, and expired in terrible agony and convulſions, before twelve o'clock at night; the violence and rapidity of the diſorder ſurmounting the force of every remedy. But if the patient ſhould ſurvive the period above-mentioned, there is great hope of performing a cure.

This diſeaſe is attended with a weak pulſe, difficult reſpiration, and coldneſs of the extreme parts; to which are joined, great internal heat, inſatiable thirſt, perpetual watching, and reſtleſs and inceſſant toſſing of the body. If together with theſe ſymptoms, a cold and fœtid ſweat ſhould break forth, it is certain that death is at hand.

The firſt intention in the cure of the Cholera, is to mitigate the exceſſive ſharpneſs of the hu-

mours: which is chiefly to be accompliſhed by aſtringents, and ſuch medicines as not only ſtrengthen the ſtomach and inteſtines, but, at the ſame time, by moderately cooling, reſtrain the fury of the rioting morbific matter. The moſt excellent medicine for theſe purpoſes, is the ſyrup of billinbing, formerly recommended; as alſo the fruit of the ſame plant preſerved, with the addition of ſaffron; and likewiſe the ſyrup of the recent juice of lemons. Moreover, there grows in Java the pſeudomyrobalanus, excellently adapted to this diſorder, and reſembling, in form, the bellericos. It is brought to market in great quantities by the negroes. This is the only ſpecies of myrobalans that is endowed with an aſtringent, and not a laxative quality; whence the preſerve, made of it, is of the higheſt utility, not only in the Cholera, but in all immoderate fluxes of the belly. Other medicines for the purpoſe are, cornu cervi uſtum, lapis bezoar, raſura cornu rhinocerotis, and margaritæ præparatæ.

If theſe remedies ſhould not anſwer the intention, the extract of ſaffron, ſo often referred to, muſt again be called to our aſſiſtance; both that ſleep may be procured, which, on account of the exceſſive weakneſs, is now abſolutely neceſſary, and that the turbulent humour being

pacified for a time, recruited nature may riſe up victorious. Thoſe who die of the Cholera generally expire in convulſions.*

* In the treatment of the Cholera morbus, the practice of our author is ſimiliar to eſtabliſhed preſcription, only that for attemperating the acrimony of the humours, he makes no mention of dilution by drinking and injections, which, if the diſorder is not arrived near its laſt ſtage, may be advantageouſly adminiſtered before the exhibition of opiates.

CHAP. VII.

Of the Diſeaſes of the Liver: and firſt of Obſtruction, and Inflammation.

NONE of the bowels, the inteſtines excepted, is, in this country, more often diſeaſed than the liver: which, independent of other cauſes, is ſolely by the drinking of that deſtructive arrac, not only altered in its temperament, but corrupted in its ſubſtance. For, when the intoxicated drinkers are all a-glowing with the pernicious draught, they ſwill down immenſe quantities of water into their ſtomachs, to extinguiſh the heat; then lye along the ground like beaſts, or ſtretched on the decks of the ſhips, expoſe themſelves to the dews, which fall copiouſly here, after the ſecond or third hour of the night. By which means they receive into their bodies the noxious vapours ariſing from the earth, and lay the foundation of obſtructions in the liver.

In this diſorder, a tenſive weight, and obtuſe pains are felt in the right hypochondrium. The reſpiration is difficult, on account of the diſtended

bowel drawing down the diaphragm, to which it is connected by a ligament. If this infarction continues, the ſtagnating humours eaſily become putrid: whence ariſes a fever, and an inflammation of the liver, with acute and pungent pain. The fever becoming ardent, intolerable thirſt advances, attended by a redneſs of the face, and difficulty of breathing, which I obſerved above to be the natural effect of the obſtruction. Theſe two affections, namely, obſtruction and inflammation, being ſo cloſely connected, that the one generally produces the other, I ſhall treat of the cure of both in this chapter, beginning, as moſt proper, with obſtruction.

Great care ought here to be taken not to uſe too hot medicines at firſt, leſt the capillary veſſels of the liver ſhould thereby be farther obſtructed, and we fall into the proverbial abſurdity of adding fuel to the flame. Temperate and gentle deobſtruents, therefore, are the medicines properly adapted. Such are thoſe called anodynes, as the ſeeds of aniſe, fennel, and cummin, with which the country ſupplies us. Next, the roots of a certain kind of aromatic graſs, in flavour reſembling avens. To theſe add (what ought to have been mentioned firſt) the true calamus aromaticus, which Garcias ab Orta calls the food of the camels, which grows

here in great plenty, and with which the inhabitants ſeaſon their meat, eſpecially fiſh, in not an unſavory manner. Other medicines ſhould alſo be uſed, which together with a mild heat poſſeſs a diuretic quality, that this uſeful and important bowel may be freed from infarction.

The offending matter being now prepared, it is not to be evacuated all at once, but drained off by degrees. The moſt ſuitable medicines for this purpoſe are tamarinds, and the pulp of the caſſia fiſtularis, to which may be added a little turpentine, properly boiled, and afterwards reduced into a powder. It is amazing how mildly theſe medicines carry off the morbific humours, both by ſtool and urine. If any thing ſtronger is deſired, a drachm of rhubarb may be added, and the whole mixed together in the form of a bolus.

When from the increaſe of the fever, and a more vehement and pungent pain, you find an inflammation advancing, forthwith bleed plentifully, according to the ſtrength of the patient. Order the diet, ſyrups, and conſerves, already ſo often mentioned, and which for that reaſon I decline to repeat. A preſerve is here made of the fruits which we call poma moris (love apples); the Italians give them the name of bella dona, and

CHAP. VIII.

Of an Impoſthume in the Liver, and the cure of it.

IF the imflammation of the liver ſhould not yield to antiphlogiſtic and diſcutient remedies, a miſerable diſorder follows, namely, an Impoſthume; with which if the parenchymous part of the bowel be affected, the malady is incurable, and therefore needs not be treated of. But if the purulent matter be collected between the membrane ſurrounding the bowel, and its ſubſtance (as often happens) the only chance of recovery is in opening the impoſthume; which ought to be performed in this manner. Firſt, let a potential cautery be applied to the region of the liver, ſo that the eſchar may only penetrate the muſcles of the abdomen, and make no impreſſion on the peritonæum. Then, by means of a knife, make a ſmall aperture in that membrane, thro' which let a concave ſilver inſtrument be introduced, ſuch as is uſed in the operation of lithotomy. Afterwards, let the inciſion be ſufficiently dilated,

and immediately the membrane ſurrounding the liver will come into view, diſtended with its contents. On being pierced, a ſanious humour, reſembling the water in which fleſh is waſhed, will flow out, which the leſs fœtid it ſmells, affords greater hopes of a cure. The wound is then to be deterged, by moderately drying and cleanſing applications: ſuch as flor. roſar. cortex granator. mel roſar. &c. and afterwards to be healed. In the mean time, the patient is to abſtain from all purging medicines, and only to make uſe of ſtrengtheners; ſuch as conſerv. roſar. with the powder of red ſaunders, to which may be added cornu cervi uſtum, and raſura cornu rhinocerotis, which is found plentifully here in the woods; margaritæ, & corallium rub. præparatum; ſyrups, conſerves, and preſerves of billimbing, mangas, and juice of lemons; all which, by cooling and ſtrengthening the liver, afford great relief. When the patient is weak, as is generally the caſe, the lapis bezoar ought to be freely uſed.

CHAPTER IX.

Of the Dropſy, a diſeaſe very frequent in the Indies.

I Have ſaid very little of the impoſthume in the liver: becauſe the cure is not to be performed by words, but the hands of a dextrous ſurgeon, directed by a prudent phyſician. I come now to the dropſy, a moſt frequent diſorder in theſe places.

It is unanimouſly the opinion of the learned, that the dropſy owes its origin to a cold temperament of the liver, which often proceeds from a chronical obſtruction*. This obſtruction ariſes

* The doctrine of the Temperaments was a prevailing notion in the age in which this was written. As it had derived its origin from the venerable authority of Galen, it was long maintained by ſucceeding phyſicians as ſacred and unqueſtionable. It is, therefore, no imputation on our author, that he was not exempted from a prejudice of ſo univerſal and preſcriptive dominion, or diſcovered not an error which lay concealed till the future dawn of more genuine philoſophy. His natural diſcernment, however, led him to ſee in many things the futility of the ſcholaſtic Jargon: and though he implicitly adopted the reigning theory of his predeceſſors and co-temporaries, yet in practice he renounced all authority; acknowledging no other guides than obſervation and facts, and following no dictates but thoſe of nature.

from unwholeſome diet, and the uſe of the fruits formerly mentioned. Hence ſanguification is vitiated (for the liver is the elaboratory of the blood). For, whilſt the liver cannot convert into blood the chyle which is brought thro' the meſeraic veins, it produces in place of it that ſerous, and watery humour; and, as in our own country, either the whole body ſwells, or the abdomen, and that, either with wind, or ſerous humours. Whence, theſe three celebrated ſpecies of the Dropſy, Anaſarea, Aſcites, and Tympanites, are, alas! too frequent in the Indies.

The part principally affected is that noble bowel, the liver. A dry cough attends, with a difficulty of breathing: becauſe the liver, by its increaſed weight, draws down the diaphragm, and hinders expiration. A ſlow fever for the moſt part comes on, and the urine on account of crudity and a weakneſs of the natural functions, is thin and pale. There is likewiſe a laſſitude of the whole body; and a perpetual thirſt, by reaſon of the ſaltneſs of the humours.

Theſe are the chief ſigns of a dropſy: and if I omit mentioning ſome other more inconſiderable ſymptons, it is becauſe my intention is not to form a phyſician, but to teach the moſt ſalutary practice in this country to thoſe who have already

ſtudied the art. Before I enter upon the cure, it is proper to obſerve, that, in general, the dropſy is more eaſily vanquiſhed here, than in our own climate (Holland). A prudent phyſician, therefore, will be careful not to hazard his reputation, nor raſhly pronounce a diſeaſe mortal, which, to his great ſcorn, may in a little time be cured by old women, or even by nature itſelf, with only a regard to proper diet.

The cure conſiſts in preparing, and evacuating the peccant humour, and correcting the temperament of the liver. The diet ought to be ſuch as affords good nouriſhment, as hens, or chickens, which are here the moſt common kind of birds; and theſe ſhould be boiled, rather than roaſted*. But amongſt the other kind of fowls, thoſe are preferable which have black fleſh; for the inhabitants have for a long time experienced them to be endowed with a diuretic quality. In the

* This precept was founded upon an erroneous opinion, that the humours to be diſcharged, required preparation, which was ſuppoſed to be beſt performed by medicated broths and drinks. Such practice, however, is deſervedly exploded with the theory whence it aroſe. Though efficacious diuretic medicines may be adminiſtered in a liquid form, it is certain that in general the moſt proper diet for hydropical perſons is that of the dryer kind.

broths, ſhould be boiled the ſeeds of dill, and fennel, and the roots of ſuccory, together with marjoram, and common baſil, with all which we abound. The fleſh of goats, prepared in the ſame manner, will likewiſe ſerve both for food and phyſic. But nothing is ſo efficacious as the daily uſe of a decoction of china, and ſarſaparilla, with the roots of turmeric, and the herbs called devil's bit, and ſcabious, which the Malaican midwives extol even to extravagance. The decoction of guaiac wood, with the bark of it, is alſo very uſeful.

When the humours are thus prepared, our next endeavour muſt be to evacuate them by ſtrong cathartics, leſt by employing the more mild, we ſhould rather ſtir than diſcharge the peccant matter. Among thoſe, the moſt excellent is the extract of Gamboge, which I prepare thus:

℞

Aloes ſocotrinæ

Gambog.

Gummi ammoniaci āā partes æquales.

Aceto vini acerrimo diſſolvantur: pone in vaſe vitreo ad ſolem fortiterque, colatum exponatur rurſus, donec contraxerit conſiſtentiam maſſæ pilularum.

The doſe of it is from half a drachm to a drachm.

The cucumis aſininus, or wild cucumber, grows alſo here in great plenty; whence I have ſometimes made the elaterium, and given from a ſcruple to half a drachm of it frequently, with great ſucceſs. The extractum eſula, likewiſe, is very advantageouſly adminiſtered, from ten to fifteen grains in any convenient liquor. And as I have often mentioned the gamboge, and the eſula, or ſpurge of Java, I ſhall give a deſcription of each.

There grows here in the woods a ſpecies of the ſpurge, that riſes to ſo great a height as to equal, or even overtop large trees, to which it clings like the ivy. Its thickneſs is about that of a man's arm. On wounding the ſtem of this plant, there flows forth a great quantity of milky juice, which, being collected, and reduced to the conſiſtence of an extract, is preſerved for uſe.

The plant which produces the gamboge, or thoſe yellow tears which you have in our country, is ſo much like the former, though it grows not quite ſo high, that there is almoſt no other difference in the juices of both, than the colour. This plant, like the aloes, grows in great quantity in Cambodja, a country bordering with China, whence it has got its name.

I ſhall ſay nothing here of the paracenteſis, or perforation of the abdomen, not that the operation is not frequently performed in this country, but that all expert phyſicians and ſurgeons are ſufficiently acquainted with it. Beſides, my intention is only to treat of ſuch methods of cure as are moſt common in the Indies: and it is more my ambition to be a good practitioner, than abſorbed in verbal theory, loftily to declaim on the nature and cure of all diſeaſes, in idle and ſcholaſtic retirement, only acting the phyſician upon paper: and I dare affirm without preſumption, that if phyſicians and ſurgeons ſhall purſue the method I have recommended, they will not repent of the conſequence.

The ſerous humour being moſtly evacuated, that the patients may not relapſe (which, without proper care, is, in the Indies, not only frequent, but irrecoverable) the remains of the diſeaſe ought to be entirely eradicated, and the liver as much as poſſible reſtored to its former temperament. For which end, beſides the common ſudorific antidotes, theriac, mithridate, &c. a light decoction of ſarſa, china, and guaiac is to be perſiſted in for ſome days, which in this, as well as other chronic diſeaſes, is by far the moſt excellent and certain remedy.

CHAPTER X.

Of the Jaundice in the Indies.

THE jaundice is here deſervedly ranked among the diſeaſes moſt frequent in India; as it is not only a primary complaint, but alſo either accompanies, or follows other diſorders, ſuch as an inflamation, ſcirrhus, and impoſthume of the liver: and being then ſymptomatic, and ariſing from the violence of a diſeaſe, it is generally mortal. But of this ſpecies of jaundice, I ſhall forbear treating; as the cure of it is connected with that of the diſorder on which it depends. There is alſo another ſpecies of jaundice, when the gall-bladder being obſtructed, its contents are not tranſmitted into the inteſtines; whence the fæces appear white, but the urine is ſo highly ſaturated as to ſtain linen with the colour of ſaffron. For, the bile returning to the liver, is, by means of the veins and arteries, diſtributed with the blood thro' the whole body, tinging the ſkin yellow, and manifeſtly diſcovering itſelf in the eyes. This is the diſorder of which I am now to treat.

This jaundice is ſo rapid in its progreſs, that it riſes and diſappears in a few days: which happened ſome months ago, to two learned and reverend gentlemen, my particular friends, Mr. JUSTUS HEURNIUS, and Mr. ABRAHAM de ROY, who after taking a few doſes of a ſudorific medicine, and cordials, recovered very ſoon. The more chronic kind of jaundice, however, requires greater application to the cure, as the obſtruction is more difficult to overcome. Beſides, it frequently produces a delirium, and phrenitis, the bile being tranſlated to the brain; and if neglected, an inevitable dropſy is the conſequence. The ſame medicines are to be uſed in this jaundice, as were recommended in the obſtruction of the liver. The inhabitants alledge that the little birds called chlorides (the Latin term for green-finches, or Canary-birds) have a ſpecific virtue againſt this diſeaſe. The decoction of china, and ſarſaparilla is of great advantage, by ſupporting a copious ſweat: and for the ſame intention, the following is highly uſeful:

℞

Fol. ſennæ ʒi. infuſ. in decoct. tamarind. cum rhabarb. ʒiſs.

If, on account of the firmneſs of the obſtruction, a ſtronger medicine ſhould be found neceſſary, the patient may take of the electuary in the ſubſequent preſcription, which I got from my brother, when he was in life, P. M. Reynerus Bontius, firſt phyſician to prince Maurice of Orange, and profeſſor of medicine in the univerſity of Leyden :

℞

Ligni guaiacini ℔ ii.
Sarſaparillæ ʒviii.
Cort. Ligni guaiac. ʒiii.

Poſt macerationem in q. ſ. aq. fluvii per 24 horas, coquant. q. ſ. colaturæ ferventiſſimæ adde

Fol. ſennæ mundator. ℔ i.
Polypodii ℔ ſs.
Sem. aniſi
Fœniculi āā ʒiii.
Hellebor. nig. ʒvi.
Myrobalanorum omnium
Tamarind. āā ℔ ii.

Bulliat q. ſ. in ſupradicto decocto, colaturæ rurſus adde

Pulpæ caſſiæ fiſtul. ʒxii.
Pulv. ſennæ

Pulv. Rhabarb. āā ʒx.

Cort. ligni guaiac. ʒiv.

Scammon. elect. pro quaque electuarii ℔. i.

adde ʒi.

Sacchar. alb. q. ſ. ut f. electuarium molle.

The doſe is from four drachms to an ounce.

Moſt of the ingredients in this electuary are to be met with here. For the polypody grows much more thick and ſucculent on the mango-tree, than on the oaks in our country. And if the black hellebore is wanting, we uſe in place of it a ſpecies of the white, which the Chineſe, and people of Java call potſiock, and is in great eſteem. Tamarinds, and caſſia grow plentifully here in all the woods. In the room of ſcammony, which, however, as well as the other kinds of the convolvulus, the country abundantly ſupplies us with, we may very advantageouſly ſubſtitute the gamboge, after it has been macerated for ſome days in vinegar, or brandy. For, by ſuch preparation, it is entirely diveſted of its emetic quality, and purges the belly more mildly than ſcammony. For common drink, let the patient uſe a light decoction of china, with the roots of turmeric, which the Portugueſe call ſaffra de tierra, as much as to ſay ſubterraneous ſaffron. The powder of it, taken with honey, in the form of

an electuary, from half a drachm to a drachm, operates as a ſpecific in this diſeaſe, and carries off the offending humours extraordinarily by urine. The flatulence which conſtantly attends this diſorder, may be diſcuſſed by the carminative ſeeds and oil of aniſe. In ſhort, all theſe medicines grow in this country, and the Chineſe, and inhabitants of Java reſerve them for ſuch medicinal purpoſes.

CHAPTER XI.

Of an Atrophy.

IT is common for people in this country to waſte in their fleſh, and grow lean without any manifeſt cauſe; no fever, or at moſt a very ſlow one attending. There is no conſiderable pain; only a little weight is felt about the navel and hypochondria. This diſorder, beſides an obſtruction in the bowels, has often for its cauſe ſome latent fault in the meſeraic veins, or the ſubſtance of the meſentery, where abſceſſes frequently are formed, as I have more than once obſerved upon diſſection. Nay, I have ſometimes found the whole meſentery conſumed: and yet the inteſtines adhered, or rather were confuſedly jumbled together, by means of thin, little ſkins, or membranes attached to them. Thus reduced to the laſt degree of extenuation, the native heat being intirely extinguiſhed, the miſerable mortals die. It is remarkable in this diſeaſe, that it is generally attended with a Βούλιμος or canine appetite, to which is joined a lientery, in which the food is diſcharged by the

inteſtines, little or nothing changed, and uncon-coćted. Altho' thoſe who are affećted with this diſorder commonly die of it, yet, that we may not ſeem abſolutely to deſpair of their recovery, an attempt ſhould be made, that, if by chance, ſome fortunate revolution of nature, aſſiſted by gentle medicines, may ſave them from impend-ing deſtruction. Moderately hot medicines, therefore, with anodynes, and mild deobſtruents, ſhould be uſed. Such are decoćtions and pre-ſerves of the ſeeds of aniſe, fennel, and caraway, with other carminatives above-mentioned. What is alſo highly advantageous, is the ſpecies of graſs produced in this country, of which the name and deſcription are to be met with in Proſper Alpinus, in chapter xl. of the Egyptian Plants, and is deſervedly called croſs-graſs, on account of its having four ears at the top of the ſtem, exaćtly forming that figure. The root of this graſs, ſo much uſed, has an aromatic fla-vour, nearly approaching to the root of the cario-phyllata, or avens. The taſte of it is a mixture of ſweet and bitter. I have obſerved admirable effećts from a decoćtion of this root, where there was a ſtone in the kidneys, and in other chronical obſtrućtions, as that of which I am now treat-

ing. The herb brook-lime, or becabunga, which grows here on the banks of the rivers, with its beautiful white flowers, is likewiſe of great advantage. For diet, the patient ought to eat of turtles and chaffinches, which the ſoldiers and Moors ſhoot with their muſkets, and bring daily to market. Goat-milk, alſo, affords remarkable benefit, as by means of the nitre in the whey, it deterges the meſeraic veins, and frees them from obſtructions. Purgatives ought wholly to be abſtained from, leſt, while we endeavour violently to make a revolution of the humours, we ſhould increaſe the obſtructions by the heat and acrimony which theſe medicines generally poſſeſs. Add to this, that on account of the defect of nutrition, the patient is always extremely weak.*

* Our author having made no mention of the dry belly-ache among the diſeaſes of the abdomen, it may not be improper to give a ſhort account of a malady ſo endemial in hot climates.

The moſt remarkable ſymptoms which attend this diſorder are griping pains and contortions of the bowels, flatulence, vomiting and obſtinate coſtiveneſs. The morbid matter is ſometimes tranſlated to the arms and legs, which it renders paralytic.

In the dry belly-ache, the grand intention of cure is to remove the conſtipation. But before the exhibition of catharties

for that purpoſe, the pain of the bowels muſt be mitigated by emollient and anodyne fomentations and embrocations, and adminiſtering opium in clyſters. A ſpoonful of the oleum palmæ Chriſti, ſwallowed every hour, until a ſtool is procured, has lately been celebrated in this diſeaſe. When the pain is violent, and the vomiting ſo inceſſant, that nothing can be retained on the ſtomach, we are encouraged to expect that the complaints will be removed by giving purgatives, joined with opiates and camphire. The uſe of the warm bath contributes to allay the pain, and forward the operation of cathartics. When by theſe means, ſtools have been procured, the belly ought to be kept open for ſome time, by the uſe of gum pills and aloes: and if rheumatic or paralytic complaints ſupervene, recourſe muſt be had to nervous ſtrengthening medicines. Moderate riding on horſeback, in the dry belly-ache, conduces greatly to complete the recovery and prevent a relapſe.

CHAP. XII.

Of ſome of the diſorders of the Lungs, which are common in this country; and firſt of the Hæmoptoe, or Spitting of Blood; and the Conſumption, or Ulcer of the Lungs.

I Ought, perhaps, to have treated of theſe diſeaſes in the order obſerved in the ſchools; but as I prefer utility to oſtentation, and am more ſollicitous about the matter of my ſubject, than the method of arranging it, I thought it of no conſequence to the cure, whether I treated of them firſt or laſt.

Since, therefore, the conſtitution of the air in this country, as I obſerved above, is hot and moiſt, it often happens that the head is loaded with ſharp catarrhs; whence a heavineſs of that part is ſo common a complaint, and frequently more laſting than with us. The ſoldiers and ſailors are particularly obnoxious to theſe diſorders, by reaſon of the pernicious cuſtom of laying

themſelves down on the ground after they have drank pretty heartily, and ſleeping without any covering, expoſed to the dews and vapours. And here let me obſerve by the way, that lodging in the upper floor of the houſe, is far more wholeſome than below, where ants, ſcorpions, and the kind of beetles called caccarlaccas ſwarm on account of the moiſture of the earth.

Theſe catarrhs often fall upon the Lungs, which they erode by their ſaltneſs and acrimony, and hence produce hæmoptoes, conſumptions, and empyemas or ſuppurations. I here omit mentioning the concomitant ſymptoms, ſuch as a troubleſome cough, difficulty of breathing, and a hectic fever, as theſe are known to all practitioners, and I haſten to treat of the cure.

The above-mentioned diſorders of the Lungs, ſo frequent in this country, being generally the conſequence of catarrhs and diſtillations, theſe laſt ought by all means to be carried off by proper purges. The following pills are well adapted to that purpoſe :

℞

Aloes Socotrin.

Gambogiæ

Colocynth. pulveriſat.

Scammon. elect. āā partes æquales :

Infunde in aceto, vel ſpiritu vini, modo jam ſæpius dicto, & ſole evaporentur in maſſam pilularum.—The doſe is from a ſcruple to half a dram, or in ſtrong conſtitutions to a dram: for, as fluxes of the belly are very violent in this country, ſo likewiſe is coſtiveneſs, which is not to be corrected without the ſtronger cathartics. My brother's electuary, formerly mentioned, is alſo of great advantage in this caſe.

After a derivation of the humours towards the belly, the remains of the catarrh ought to be extirpated by other remedies, particulary calculated to clear the brain, ſuch as ſternutatories, and maſticatories, of pellitory, ſtaves-acre, the ſeed of radiſh, creſſes, pepper, and things of the like kind. Beſides theſe, we have here a noble medicine, made of the Indian or Malabar nut, betle, and lime of oyſter-ſhells, which by being chewed draws the phlegm from the brain, conſumes what is generated in the ſtomach, and prevents it from ſtuffing the head with thoſe vapours which are the cauſe of catarrhs. This medicine is called in the Malaian language, Sirii Pinang. For its deſcription, and the other remarkable virtues of

which it is undoubtedly poſſeſſed, ſee Garcias ab Orta's *hiſtoria aromatum, cap. de betele, ac areca.* It is a ſpecies of that pinang which the Indians call mabock, as much as to ſay drunken, which in a ſhort time affects the head, in the ſame manner as too large a draught of wine; but on eating a little ſalt, the giddineſs it produces goes off.

When theſe catarrhs, either through neglect, or unſucceſsful treatment, have, by the ſaltneſs with which they are endowed, eroded the veſſels of the lungs, or opened them *per anaſtomoſin*, and the perſon falls into an hæmoptoe or copious ſpitting of blood, with a great cough, blood ſhould immediately be drawn in a large quantity to make a revulſion; after which, incraſſating pectorals, and medicines reſtraining an hæmoptoe, are to be uſed, which I ſhall mention below. If the patients ſhould for a little eſcape the ſpitting of blood, the cough, however, remaining unabated, with a diſcharge of purulent matter, it is a ſign that a conſumption, or ulcer of the Lungs is formed, to which if a hectic fever ſucceeds, a maraſmus and death muſt enſue.

As an hæmoptoe and ulcer of the Lungs have ſo great an affinity, and one is generally the cauſe of the other, the method of cure in both

diſeaſes is either entirely the ſame, or extremely ſimilar. In the beginning, therefore, we ought to uſe the cold ſpecies diatragacanth, for making which we have here abundance of the ſeeds of cucumbers, gourds, melons, &c. Almonds, and the ſeeds of poppy, are alſo plentifully ſupplied to us from Surat; all which, together with other medicinal productions of the country, are preſerved for uſe, compounded in the form either of cakes or electuaries. But nothing is of equal advantage with the extract of ſaffron, ſo often mentioned, which not only reſtrains the ſpitting of blood, but mitigates the cough, and by thickening the purulent matter, facilitates expectoration. It likewiſe heals and cicatrizes the ulcerated lungs. In a word, by that medicine only, I have cured many who were in a deſperate ſituation. The patient ought alſo to take a draught of the following decoction, thrice a day at leaſt:

℞

Scabioſæ

Morſus diaboli

Linguæ cervin. āā m. i.

Capit. papav. demptis ſummitatibus. No. iv.

Glycyrrhiz. raſ. ʒi. Coque in q. ſ. aq. commum.

Colaturæ ℔ß. iiſs. adde

Ol. ſulphur. q. ſ. ad gratum acorem. m. f. apozema.

If the lungs require to be cleanſed ſtill more from the purulent matter, you may add to this decoction two ounces of the honey of roſes. For the ſame purpoſe, and promoting expectoration, we may alſo employ this conſerve:

℞

Conſerv. roſar. e Perſia antiqua ʒii.

Sem. papav. alb. contuſi ʒſs.

Flor. ſulphur. ʒiſs.

Pulv. ſolidaginis Saracenicæ

Scabioſæ āā ʒi.

Ol. ſulphur. q. ſ. ad gratum acorem. m. f. conditum.

For common drink, let the patient uſe a decoction of china, or ſarſaparilla.

CHAP XIII.

Of the Empyema, and fluctuation of purulent matter in the cavity of the Thorax.

THE cure of the Empyema is performed by the ſame medicines required in an ulcer of the lungs, but with far greater difficulty: becauſe the pus, and ſanious matter being lodged, either in one or both ſides, between the lungs and diaphragm, though frequently we may drain off a part of them, we ſcarcely can evacuate the whole. And yet there is no other paſſage for the diſcharge of the matter, than the trachea arteria, whatever people may affirm of its being frequently carried through the left ventricle of the heart unto the liver and meſeraic veins, and thence diſcharged critically, in the courſe of circulation, either by purulent ſtools, or urine. I pretend not, however, to diſparage the authority of thoſe who maintain that doctrine, though in the whole courſe of my practice, I never was ſo fortunate as once to ſee ſuch an excretion. But the method

of cure I am now to propoſe, though no queſtion ſomewhat tickliſh and percarious, will certainly be acknowledged by every judicious perſon, to be the moſt excellent and effectual reſource. A potential cautery is to be applied to the intercoſtal muſcles, between the fourth and fifth ribs, above the diaphragm, till a large enough eſchar is formed, which generally happens in about the ſpace of three hours; after which a ſufficient inciſion is to be made into the part. Should this laſt operation not be preceded by the uſe of the cautery, the wound would heal too ſoon. To obviate which event, and facilitate the diſcharge of the purulent matter, the wound ought to be of ſuch a form, as, having the largeſt diameter, its oppoſite edges may remain at the greateſt diſtance from each other, which is moſt eminently the advantage of a round inciſion. Above all, however, care is be taken that the pus or ſanies be not diſcharged all at once, but at proper intervals, according to the ſtrength of the patient, a conſideration, in this country, of the higheſt importance. Many have I known ſurpriſingly cured by this remedy: among whom are, a ſergeant, and a corporal, in the Dutch garriſon, who ever ſince, when I meet with them, perfectly harraſs me with their kindneſs, and

thankful acknowledgments: but of theſe I ſhall treat in particular obſervations. If I find that you are pleaſed with what I write, I ſhall take care to convince thoſe whoſe approbation I eſteem, that I have not paſſed the time idly ſince my arrival in the Indies. And with reſpect to the malevolent, I am entirely regardleſs of their cenſure: for I look on myſelf as placed above the reach of their envy; and it is ſufficient for my intereſt here, that I preſerve the good opinion of the governour, and counſellors of the Indies.

CHAP. XIV.

Of Fevers in the Indies.

THE Fevers in the Indies, are generally either ſymptomatic or continual, and for the moſt part of the kind call putrid ſynochi. I ſcarcely remember to have ſeen any that obſerved regular periods, and had an intermiſſion or an apyrexy, unleſs one or two quartans, which the patients brought hither from their own country, and which terminated in dropſies and death. Fevers therefore, in India, are commonly erratic and irregular, and ſo various in their types, that it is impoſſible to reduce them into claſſes. I do not affirm that tertian intermittents never make their appearance here; but they are ſo extremely rare that we may here apply the proverb, that one ſwallow makes not the ſpring: and my deſign is, to write of ſuch diſeaſes as are conſtantly frequent and endemic. In general, however, it is true that thoſe diſeaſes, in the progreſs of which

fevers ſupervene, are more dangerous in this country, than diſorders which they accompanied from the beginning. I ſhall, therefore, ſay nothing of ſymptomatic Fevers, as the cure of them is connected with that of the primary diſorder, but only ſpeak of the continual, which commonly attacks people with ſuch violence here, as in an inſtant to deprive them of reaſon, and with a phrenitis, and inceſſant delirium, often kill them in a few days, or even hours.

This fever is attended with perpetual watching, and vomiting of variouſly-coloured matter, particularly of green and æruginous bile. The external parts of the body are cold; while, inwardly, great heat and thirſt prevail. As this fever, therefore, is a ſpecies of the putrid ſynonchus, in which the blood deviates from a healthy ſtandard, in reſpect both of quantity and quality, who can doubt that the two celebrated remedies of antiquity are proper for its cure? though which of them ought to be premiſed, may be matter of diſpute. But, paſſing over the ſubtile arguments, and altercation of the ſchools, it is my opinion that purging ought to be the evacuation firſt inſtituted; becauſe, if otherwiſe, the benefit of blood-letting will be more than balanced by the

injurious commotion excited by the ſubſequent purge, which may drive, perhaps, the humours to ſome of the principal parts, and produce the moſt terrible ſymptoms.* In the beginning of the diſeaſe, therefore, the ſick ſhould be gently purged with tamarinds and the pulp of caſſia, a common clyſter, at the ſame time, being injected, with an ounce of the electuary above deſcribed. Venæſection may, then, be performed with ſafety and advantage, and even repeated if required; the neceſſity of which, the judgment of the phyſician muſt determine. The whole body is afterwards to be rubbed with the ointment of borborii†. But, if watching, and a phrenitis attend, the vein in the forehead ought to be opened, and ſleep procured by every ſoporiferous medicine; as philonium ſine euphorbio, requies nicolai, mithridate recently made,

* An inviolable obſervation of this method of practice, though formerly much contended for, is now generally diſregarded, as trivial; and the order of precedency betwixt bleeding and purging, is determined rather from reaſons of convenience, than any fixed and permanent rule.

† This ointment, of which the principal ingredient is turmeric, is mentioned by our author in another place, and greatly eſteemed by the Indians, in various diſeaſes.

&c. But, in all caſes of danger, we muſt ſtill fly to my laudanum, or extract of ſaffron, as the laſt reſource; which, for its extenſive utility in the diſeaſes of this country, can never be ſufficiently applauded. The other erratic fevers I mentioned, are to be cured in the ſame manner with thoſe which have ſtated paroxyſms, and reſemble them moſt in their nature; which, as they are ſufficiently known from other writers, I ſhall not enlarge upon here.

CHAP. XV.

Of certain Fevers, which the inhabitants call Tymorenſes, peculiar to the Indies.

THE people who ſail to the iſlands Solor and Timor, in order to cut down the ſaunders trees, are ſeized with a ſort of putrid Fever, which, if continual, is attended with a delirium and phrenitis, but, if increaſed at intervals, (for ſometimes this fever has remiſſions, though never intermiſſions) the exacerbation continues generally about four hours, during which time the ſick behave themſelves in the moſt ridiculous manner, imitating the employments which they exerciſed while in health, and babbling out all the moſt ſecret tranſactions of their lives, to the no ſmall entertainment of the by-ſtanders. It is likewiſe attended with a Βδλιμος or carnine appetite, ſo that while the patients are in a delirium, they eat every thing that is preſented to them, though it be of the vileſt and moſt abominable kind.

This fever ariſes from various cauſes, of which the principal are theſe: the ſmell of the ſaunders tree when newly felled; which (on the teſtimony of the inhabitants of the country) ſends out from its bark ſome vapours of I know not what poiſonous quality, and noxious to the brain*. See the hiſtory of the ſaunders wood in Garcias ab Orta, lib. i. chap. 17. Beſides, the conſtitution of the air is thick, and extremely heavy: for, the dwellings of the inhabitants are on the higheſt mountains, where on account of the ſituation, clouds and watery vapours prevail. The cold, likewiſe, is ſometimes as ſevere as in Holland: all which concur to produce thick humours and turbid ſpirits. Add to theſe ſeveral cauſes, the cuſtom, in this country, of eating a great deal of fruits, which as they are for the moſt part green, and on account of their moiſture, obnoxious to putrefaction, generate bad juices in people whoſe conſtitutions have been altered by the ſea, hard labour, groſs diet, and an intemperature of the air. I had almoſt omitted to ſubjoin, as another cauſe, the ſudden change of air which our people expe-

* It is probable that the cauſe here ſpecified is more imaginary than real: as we have no inſtances of putrid fevers being excited by the effluvia of vegetable ſubſtances.

rience when they deſcend from the cold mountains to the ſhore and the ſhips, where they are ſcorched with heat: for this iſland is ſituated towards the ſouth, about ten degrees from the æquator. And, as Ovid ſays,

Cum modo frigoribus, calido modo ſtringimur æſtu,
Tempore non certo corpora languor habet.

What are alſo greatly to be guarded againſt, are the winds which blow from the mountains after midnight, in Java and the circumjacent iſlands: juſt as in ſome of the ſouthern parts of France and Italy, eſpecially in the kingdom of Naples, and the territory of the Pope, the cold wind which blows from the hills, and is called the ſerene, produces pleuriſies, peripneumonies, and other acute diſorders, whence Horace remarks,

Matutina parum cautos jam frigora mordent.

The cure conſiſts in gentle purging, and, a clyſter being premiſed, in immediate blood-letting, which in plethoric and ſtrong people, ſhould be carried to the point of fainting. Let cupping glaſſes be applied to the neck, ſhoulders, and

crown of the head, ſhaved. The natives burn the temporal arteries by means of a bit of hot metal, with prodigious advantage, as they alſo do in all chronical pains of the head. The morbid humour may likewiſe be conveniently purged off with my brother's electuary before mentioned. And I have learned by experience, that vomits of crocus metallorum, and the ſalt of vitriol precipitated, are extremely uſeful in this diſeaſe. If the watching, which increaſes the phrenzy, ſhould be perpetual, we may uſe, beſides other narcotic medicines, my extract of ſaffron, either made into a pill, or diſſolved in wine. All theſe gegeneral remedies being adminſtered, the temperament of the heart, liver, and brain, is to be corrected by ſudorifics and diuretics, as alſo by antidotes, ſuch as bezoar, and raſura cornu rhinocerotis, and by cooling conſerves and ſyrups, which I have ſo often had occaſion to mention*.

* To this article we ſhall ſubjoin the account of an endemial putrid fever at Bengal, extracted from the inaugural diſſertation of the ingenious doctor James Lind, printed in the year 1768.

This fever, which attacks ſuddenly, commences with a great proſtration of the ſtrength and ſpirits. A variable coldneſs ſucceeds, with vertigo, nauſea, a tremor of the hands,

and excruciating pains of the head and loins. The face is pale, the ſkin generally dry and conſtricted, the eyes dull and heavy, the pulſe quick but ſmall, the reſpiration, for the moſt part, difficult, and interrupted with ſobing.

As the paroxyſm advances, the coldneſs is intermixed with wandering heats, which, increaſing faſt in violence, become permanent. The nauſea riſes in ſeverity, and ſometimes produces vomiting. A great quantity of bile is thrown up from the ſtomach, and frequently alſo diſcharged downwards. The ſkin reddens, the eyes become tumid, and ſometimes much inflamed.

The pulſe grows fuller, and the breathing more difficult, with great reſtleſſneſs and thirſt, which however, on account of the nauſea, the patient is unable to aſſuage. The tongue becomes foul, the pain of the head and loins more ſevere, and a moiſture appears on the face, which, gradually diffuſing over the body, the violence of the paroxyſm at the ſame time decreaſing, betokens the approach of a remiſſion which is accompliſhed by profuſe ſweats.

The pulſe then returns almoſt to its natural ſtate. The pain of the head and loins, however, continues, though much diminiſhed: there is a diſagreeable taſte in the mouth, and the appetite ſtill is proſtrate.

This remiſſion is ſoon ſucceeded by another paroxyſm, which begins not with ſo much of a tremor, but a greater pain of the head, extreme reſtleſſneſs, a cardialgia, nauſea, and bilious diſcharges by vomit and ſtool, reſembling the colour of lime water. Great heat, immoderate thirſt, and delirium ſupervene. The tongue becomes more rough, and, together with the teeth and inſide of the lips, is covered with a black cruſt. The breath is hot and fetid. Again, a ſweat produces a re-

miſſion, which, however, is of ſhorter duration, and leſs conſpicuous than the former.

A third paroxyſm comes on, in which all the ſymptoms are aggravated, and the vomiting and ſtools more fetid. The tongue becomes ſo dry and ſtiff, that the patient ſcarcely can ſpeak. This paroxyſm often proved mortal.

Such generally were the ſymptoms of this fever, which, however, were ſometimes different in the different ſeaſons of the year. And though moſt commonly the ſkin was dry till towards the end of the paroxyſm, there were caſes in which it was moiſt, and covered with ſweat from the beginning.

The gentleman, from whoſe treatiſe the deſcription of this fever is taken, imputes the production of it, with great probability, to unwholſome diet, and air, which is contaminated by the putrid effluvia of the marſhes abounding in the bay of Bengal.

With regard to the cure of this fever, the method is in general the ſame as in others of the putrid kind. It deſerves, however, to be remarked, that on the teſtimony of a judicious practitioner, corroborated by the author of the inaugural diſſertation, the peruvian bark has been ſucceſsfully adminiſtered in remitting fevers in the Eaſt Indies, even during the paroxyſm. And from inſtances in our own conntry of the good effects of exhibiting that medicine through all the ſtages of theſe fevers, perhaps there is reaſon to adopt a ſtill more unlimited uſe of the febrifuge, than, with all its extenſion, has hitherto been recommended by the moſt eminent writers on the ſubject.

CHAP. XVI.

Of Blindneſs, and a weakneſs of Sight, to which thoſe are liable who ſail to Amboyna, and the Molucca Iſlands, and in the circumjacent friths.

THE people who ſail to Amboyna, Banda, and the Molucca iſlands, are often troubled with a weakneſs of ſight, and even a total blindneſs, ariſing from thick and viſcid humours ſtuffing the head and brain, and obſtructing the optic nerves: which blindneſs, however, is not perpetual, but often ceaſes upon a change either of air, or better diet. The inhabitants of theſe iſlands impute it to eating hot rice: and that ſuch is really the cauſe of it, ſeems to be confirmed by experience. Hence the people of Java and Maldivia expoſe their rice, after being boiled, to the cooler air, or winnow it with a fan: and our ſailors are prohibited from eating hot rice under a certain penalty. If we enquire farther into the origin of this diſorder, we ſhall have ſtill more

ſeaſon to be ſatisfied with the probability of the cauſe here aſſigned. For this rice is always ſown in wet and marſhy places, whence it contracts ſomething of a fœculent and moiſt nature, which penetrates farther when hot than cold. For the ſmell of even crude and dry rice loads the head, and brings on a drowſineſs.

The method of cure I commonly uſe in this diſorder, and by which I have recovered many to their former ſtate of health, is this. Firſt, the head is to be purged, and the ſtomach cleanſed of the groſs humours, which ſend up theſe vapours to the brain. This intention will be beſt anſwered by the purgative pills of Reinerius Bontius above deſcribed. Then, ſternutatories of the powder of tobacco, &c. and maſticatories are to the uſed. Bleeding is likewiſe advantageous. But the grand ſpecific in this diſorder, and a medicine of which I have often experienced the virtues, is the liver of the fiſh Lamia, eaten crude with ſalt. This fiſh is called in Dutch *een Haye:* and when expoſed to the ſun, there diſtils from it an oilineſs, named in the ſame language *Traen*, which, anointed upon the eye, is an immediate remedy, owing, without doubt, to the peculiarity of its ſub-

ſtance : for ſo far are the livers of other fiſhes from poſſeſſing a ſimilar quality, that they are rather of manifeſt injury. Upon the whole, though this blindneſs is often tranſitory, yet, if neglected, and an improper diet be perſiſted in, with an unſeaſonable uſe of arrac, it often degenerates into a total deprivation of ſight, of which every where here we meet with inſtances.*

* That the diſorder here treated of actually proceeds from eating hot rice, ſeems extremely problematical ; ſince the author acknowledges that it is cured, not only by a change of diet, but of air. Perhaps the deſcription may not authoriſe the conjecture; but as the diſeaſe is tranſitory and yields to evacuations, it would appear to be no more than a greater degree of the nyctalopia, or night-blindneſs, which is frequent in the torrid zone, and cured by bleeding, purging, and the root of wild valerian.

Of some external Diseases of the Body, in the Indies.

CHAP. XVII.

Of the Herpes, or a ſpecies of the Indian Impetigo, which the Inhabitants call a Cowrap.

HAVING treated of the chief internal diſeaſes which are endemic in theſe remote places, paſſing over the ſlighter affections which happen daily here, as well as in our own country, I now propoſe to give an account of ſome external diſorders likewiſe familiar in the Indies.

Among theſe the principal is the herpes, a moſt troubleſome kind of impetigo, or tetter, which chiefly ſeizes the arms, breaſt, groins, face, and ſometimes even the whole body, with ſo intolerable an itching, that thoſe affected with it, cannot refrain from ſcratching themſelves night and day; but the ſoothing ſenſation ariſing from that exerciſe, is of ſhort continuance; for great pain enſues, while the ſharp and ſaline humour vellicates the tender parts that are now deprived of the cuticle, and the ſhirt, which adheres to the

ſcabs, cannot be ſeparated without their laceration. The natives call this diſorder the cowrap, a word ſignifying every kind of ſcab. The cauſe of this cutaneous affection is a ſalt and nitrous pituite, mixt with bile and melancholic humour. It is propagated by contact, and is ſo extremely infectious, that few eſcape it: tho' this diſorder renders the ſkin deformed, and rough with ſcales, yet it is productive of one great advantage, which is, that a perſon while affected with it, is ſcarcely ever ſeized with any other dangerous complaint. On the other hand, when the cowrap diſappears ſuddenly, it prognoſticates the approach of ſuch an illneſs; the peccant matter, by a metaſtaſis, being carried to ſome nobler part. For that reaſon, there are people in this country, who, after experiencing the diſorder ſome years, are little ſolicitous of being cured. But we who know that when the cauſe is removed, the effect ceaſes, know, likewiſe, that what the vulgar regard as wholſome in itſelf, proves only ſuch by accident, and that the diſeaſe of the cowrap is a happy effect from a bad cauſe. Juſt as in a gonorrhæa virulenta, where, the liver expelling the venereal virus to the paraſtate glands, and thence to the penis, the ſufferers comfort themſelves in the diſ-

eaſe; though it is well known to thoſe who are in any degree converſant in medical practice, that, if the gonorrhæa is not cured, a lues venerea muſt enſue.

If this diſeaſe be neglected, eſpecially in melancholic and atrabiliary conſtitutions, it changes into the lepra of the Arabians, or, what is much worſe, the elephantiaſis. The cure of it, in the beginning particularly, conſiſts in evacuating the morbific cauſe, which may be ſucceſsfully performed by the purgative medicines ſo often mentioned. For, unleſs general remedies are premiſed, it will be vain to have recourſe to topical applications. The following excellent powder I have adminiſtred with great advantage in this, as well as other melancholic diſeaſes.

℞

Fol. ſennæ mundator. ℥xiv.
Rhabarb. opt.
Turbith alb. āā ℥viii.
Tartar. alb.
Scammoneæ elect. āā ℥iv. m. f. Pulvis ſubtiliſſimus.

The doſe is a dram in any convenient liquor.

Among the beſt topical applications, is one which was communicated to me by the reverend and learned Mr. Juſtus Heurnius, a man of ſingular proficiency in every part of knowledge.

℞

Ferruginis ʒi.
Sulphur. ʒſs.
Subtiliter in marmore fricentur; adde
Succum e foliis Baſilici, & f. paſtilli.

Theſe troches or balls are to be diſſolved in vinegar, with which the parts affected with the cowrap are to be touched at night, and which, for the ſake of cleanlineſs, may be waſhed off in the morning. If it ſhould not prove effectual,

℞

Opii ʒſs.
Calcis vivæ ex conchyliis uſtæ ℈ii.
Fricentur in marmore, cum ſucco pomorum amoris.

That the application of this remedy may be more ſucceſsful, the ſcab of the herpes ſhould firſt be ſcraped off, and the ichorous matter wiped away. For the ſame purpoſe, may be uſed the oil of gum benzoin, with nitre, or ſalt prunel,

or a very ſmall quantity of mercury ſublimate. With theſe the juice of lemons may very advantageouſly be mixed, together with prepared tutty, or ceruſe; by which topical remedy alone, with a doſe of phyſic previouſly taken, I effectually cured myſelf, when my arms and breaſt were infeſted with this loathſome diſeaſe. The diet here, as in all cacochymic caſes, ſhould be moderate, and conſiſt of ſuch aliments as yield good and wholſome juices; the choice of which, to avoid tautology, I ſhall leave to the judgment of the phyſician*.

*The cowrap is a diſeaſe very common among the inhabitants of the torrid zone. It is cured by mercurials, antitimonials, ſudorifics, and the external application of the flowers of a ſhrub, called in the Weſt India iſlands the French guava buſh.

CHAPTER XVIII.

Of red Pimples, or Wheals, vulgarly called in Holland het Rootvont, *and troubleſome flea-bites.*

THOSE eruptions which Cornelius Celſus, the Latin Hippocrates, calls papulæ, Pliny ſudamina, and the people of Holland *Rootvont*, are ſo common in this country, that I never yet knew one perſon here, who eſcaped them, no more than the bites of the fleas which the Portugueſe call moſquitas. The pimples are of a red colour, ſomewhat rough, and thrown out upon the ſkin by a ſweat. They infeſt the whole external parts of the body from top to toe, with great and irreſiſtible itching. People newly come from the country are more affected with this eruption, as well as the bites of the muſquetoes, than thoſe who have lived in it ſome time: ſo that it is a common jeſt here, to ſay, by way of ridicule, that he who has the eruption, is *Orang Barou*, meaning a novice, and therefore, that the flies and papulæ claim a tribute of milk

and butter for having ſeized him; for thoſe who have been longer in the country, call themſelves, boaſtfully, *Orang Lamme*, or veterans.

This troubleſome complaint, as far as it is an eruption, is to be ranked only among the cutaneous diſeaſes: but if treated raſhly, and the ſkin be wounded by the nails, the wheals, and likewiſe the bites of the muſquetoes, often produce foul ulcers, which are malignant and difficult to cure.

Sic neglecta ſolent incendia ſumere vires.

To abate the uneaſy itching, I adviſe the parts affected to be touched with a linen rag, dipped in a mixture of vinegar and water, with the addition of nitre, or ſalt prunel, and if the compoſition is deſired ſtronger, the freſh juice of lemons. Though by the uſe of this application, the pain at firſt may increaſe, yet it ſoon vaniſhes, and is much more tolerable than the itching. By the way, I would earneſtly diſſuade phyſicians and ſurgeons from ever giving purgatives in this diſorder, though they were even of the mildeſt kind, leſt the acrid bilious matter being there-

by tranſlated to the inteſtines, ſhould occaſion a dyſentery: but let them rather leave the cure entirely to nature, or promote the excretion by ſudorifics; for I have more than once obſerved ſuch miſchief produced by negligence or imprudence.

CHAP. XIX.

Of Tophi, Gummata, and Ulcerations, endemic in the Iſland of Amboyna, and eſpecially the Moluccas; which the Dutch call d'Amboynſe pochen*.

THERE is an endemic or popular diſorder in Amboyna, and the Molucca iſlands particularly, which in its ſymptoms reſembles much the venereal diſeaſe. But they differ in this reſpect, that the former is produced without any venereal embrace. There break forth on the face, arms and legs, tophi or tumours, at firſt hard and ſchirrous, and ſpread as thick over the whole body as corns and warts grow on the hands and feet in our country. If theſe tumours happen to ulcerate, they diſcharge a viſcid and gummy matter,

*This diſeaſe is called by the Engliſh the prickly-heat: and generally ſeizes all ſtrangers ſoon after their arrival in hot climates. The beſt method of curing it is, to obſerve temperance, uſe moderate exerciſe, and ſupport a free perſpiration by drinking warm liquids, and avoiding a ſudden tranſition to cool air, night-dews, and damp places.

but ſo acrid and corroſive as to cauſe deep and hollow ulcers, with inverted lips; a naſty and ugly diſeaſe, and ſimilar to the lues venerea, but that it is not attended with ſo much pain, nor do the bones ſo eaſily become carious, unleſs by neglect in the cure.

This diſtemper owes its origin to the peculiar nature of the climate and ſoil; to the air, infected with ſalt exhalations from the ſea; and to groſs and pituitous diet, ſuch as is yielded by moſt of the ſea fiſh, of which great plenty is caught here, and which the inhabitants conſtantly feed upon, as the country affords little other proviſion. What likewiſe greatly contributes to produce this diſeaſe, is the uſe of a viſcid ſubſtance, which is eaten over the whole country inſtead of bread. It is called ſago by the inhabitants, and is a flour ſhaken from the bark of trees. To theſe cauſes, may be added the unreaſonable drinking of a liquor named ſaguër, which is procured from the tree almoſt in the ſame manner with that taken from the palma indica, or cocoa tree; which the inhabitants call towac, and the Portugueſe vinho de palma. This liquor, drank in immoderate quantity, intoxicates like wine or ale, and is hurt-

ful to the head and nerves: whence alſo in theſe iſlands, the ſpecies of palſy, already ſpoken of under the name of the barbiers, is pretty frequent.

As to the cure, it is not very difficult, provided that the diſeaſe be recent; but more tedious if that is inveterate. It requires almoſt the ſame remedies as the lues venerea, obſtructions of the ſpleen, leucophlegmatia, the dropſy, and other chronical and obſtinate diſtempers. Decoctions, therefore, are to be made uſe of, prepared of the roots of china, ſarſaparilla, guaiacum and its bark, in which two handfuls of brook-lime may be boiled. The peccant matter is afterwards to be diſcharged by the briſker cathartics: for the gentler kinds are of no advantage here. Such are gamboge and elaterium; and if theſe, ſhould prove ineffectual, we muſt have recourſe to chymical and mineral preparations, as mercurius vitæ, or butyrum antimonii, turbith minerale, and mercurius præcipitatus albus. Mercurial ointments, likewiſe, properly prepared, are to be applied externally: all which may be met with in Crollius, and other knowing and experienced chymiſts.

SOME SELECT

OBSERVATIONS

TAKEN FROM THE DISSECTION OF DEAD BODIES, AND TENDING TO THROW LIGHT ON THE DISEASES ABOVE TREATED OF.

OBSERVATION I.

Of a Perſon who died of the Spaſm.

A Soldier, who being drunk had lain the whole night on the ground, on awaking, was ſo ſuddenly ſeized with a ſpaſm, his body bent backward, that he remained perfectly ſtiff and crooked. When brought to the hoſpital he was put under my care. He looked fierce, could ſwallow nothing, and ſpoke inarticulately, as with with the voice of a perſon under ground. He died within four days, in extreme torment, after all the remedies I have mentioned in the method of cure, had been adminiſtered without any effect. I was curious to inveſtigate the cauſe of ſo ſevere a diſorder: wherefore, calling Mr. Andrew Du-

ræus, the moſt expert ſurgeon of the Dutch hoſpital, we opened the body. We found the vital parts, ſuch as the heart, and lungs, and the natural organs, as the liver, ſtomach and ſpleen, all ſound We juſtly ſuſpected, therefore, that the ſource of the evil lay more deep. We laid the brain open as far as the ventricles, which we found to be full of a viſcid and glutinous matter, of a yellowiſh colour, like the yolk of an egg, but extremely fetid. This, preſſing upon the origin of the nerves, had been the cauſe of ſuch direful ſymptoms. The veins running through the meninges of the brain were quite turgid with bilious blood. He died in the month of February 1629. An enſign who kept guard in the fort, called Rubin's rampart, was ſeized ſoon after in the ſame manner: but, beſides the ſymptoms mentioned above, his right cheek was ſo contracted with the cynic ſpaſm, that during the whole paroxyſm, he could not utter one word, and died in twenty four hours; a ſtrong and robuſt young man, if ever there was any.

OBSERVATION II.

Of a Perſon who laboured under an Empyema and Conſumption.

HENRY N. N. a Daniſh merchant, who lay ſick in the houſe of Ambroſe Vander Keer, ſheriff of this city, was diſſected after his death by Mr. Andrew. Both lobes of the lungs adhered ſo firmly to the pleura and diaphragm, as not to be ſeparated without laceration. In the right ſide, where he had felt the moſt pain, were found pieces of the bronchia, which had been torn from the ſubſtance of the lungs, together with a great deal of ſanious matter, ſuch as in his life time he had copiouſly ſpit up. His voice was ſhrill, like that of the African cocks, or thoſe of Calcutta. He had laboured under a ſpitting of blood for a long time before, which laid the foundation of this lamentable diſeaſe, of which, extenuated to the laſt degree, he died the 19th of Auguſt 1629.

OBSERVATION III.

Of one who died of the Dyſentery.

BY order of the governour, Mr. Adam, ſurgeon of the Dutch garriſon, and I, opened the bodies of ſome who had died of the Dyſentery, which raged epidemically among us when we were beſieged by the people of Java. One of thoſe who were opened was a ſoldier. His inteſtines were greatly inflated, and deprived of their inner coat. What was moſt extroardinary, the gall-bladder was full, and diſtended with a viſcid white humour, like the pap made of ſtarch, which the women in Holland call *ſtyffel*. There appeared not the ſmalleſt veſtige of any bile.

OBSERVATION IV.

Of a Man whoſe Lungs were full of purulent Matter.

IN the month of May 1629, we opened the body of a ſoldier who died of a conſumption. The ſubſtance and colour of the lungs, ex-

ternally, were in appearance ſound; but on being diſſected, there run out a great deal of green, and exceedingly fetid pus; and the right lobe of the lungs adhered to the ribs. It is remarkable that among the many bodies I have diſſected, I never obſerved the left lobe alone to adhere, but either both, or the right only. The reaſon of this I confeſs I know not, unleſs it be that the vena azygos, or ſine pari is wholly in the right ſide, and on being burſt in the pleuriſy by violent coughing, throws out this matter. Hence, likewiſe, exquiſite pleuriſies happen moſtly in the right ſide.

OBSERVATION V.

Of a Perſon cured of an Empyema.

A Soldier, who had drank immoderately of arrac, was carried into the fort entirely ſtupid and motionleſs. We did not imagine that he could ſurvive the night: however, partly by vomiting, and partly by ſleeping out the debauch, he was ſeized next day with a violent pleuriſy in the right ſide: and though the pain had much abated

on bleeding, the inflammation terminated in an ulcer, the conſequence of which was an Empyema. As yet his ſtrength remained unſhaken, nor was he now moleſted with any great degree of fever. We therefore applied the potential cautery between the fourth and fifth ribs, and opened the eſchar afterwards with a knife. There flowed out a great quantity of ſanious matter, together with ſome putrified pieces of the membrane which lines the ribs. By proper ſyringing he recovered beyond all expectation; and, at the time I am writing this, has ſet ſail for Malacca.

OBSERVATION VI.

Of a remarkable Fracture of the Skull.

A Sailor who was cleaning his veſſel in this port, while he was ſhoving off the boat with a pole, that it might not ſtrike againſt the ſhip, happening to ſtoop down in order to diſentangle the cable, the boat in the mean time unfortunately daſhing, by the force of the waves, againſt the ſhip, had his head ſo terribly jammed betwixt the veſſels, that it was though to be ſhat-

tered to pieces. He immediately became ſenſeleſs, and, the blood guſhing out from his mouth, ears and noſe, was carried to the hoſpital. When Mr. Andrew and I viſited him, we looked on his caſe as deſperate. At firſt we found a very large contuſion in the back part of the ſkull, from which, after opening, we extracted a great deal of concreted blood. Next day, when all was cleaner, it appeared that the ſkull was broken to many pieces: on the removal of which we proſecuted the cure in the uſual manner. He remained under our care about ſix months; during which time the whole bone, compriſed within the lambdoïdal ſuture, was taken out in ſplinters, a little above the hole in which the firſt or tooth-like vertebra of the neck is inſerted. He returned to his own country in the month of November, perfectly reſtored to health; wearing on the back part of his head a plate of ſilver, of the form of half an helmet, which was given him by governour Coën to defend his brain from any injury.

OBSERVATION VII.

Of a chronical and complicated Diſorder.

ON the fifth of September 1629, we opened the body of a German ſoldier, who had languiſhed, near a whole year, of an æruginous flux of the belly, dry cough, great difficulty of breathing, &c. The omentum and meſentery were almoſt entirely conſumed, ſo that the inteſtines adhered together, or rather were confuſedly mixed, ſmall fibres growing out of them here and there. The ſpleen was contracted to the ſize and ſhape of a little ball, in ſuch a manner as to be much leſs than the kidneys. The liver appeared of ſo many colours, wan, pale, yellow and green, that we were amazed. The gall-bladder, far larger than uſual, was diſtended with æruginous bile. The ſtomach and inteſtines, which were eroded, contained likewiſe a quantity of that humour. The right lobe of the lungs ſo adhered to the ribs and diaphragm, as to appear inſeparable. The reader will not be ſurpriſed at the difficulty of curing ſuch a complication of diſorders, which I have obſerved not in

this perſon only, but many others. This is the effect of drinking too much of that curſed arrac, made of rice and the holothurii. And as medical writers alledge, that the ſea hare (which, as well as the ſæpia, is a ſpecies of the holothurii) poſſeſſes a venomous and peculiar quality of eroding the lungs, I am much of opinion, that all theſe vile commodities are endowed with the ſame deſtructive power.

OBSERVATION VIII.

Of a Man in whom the Vena Cava was filled with a fat and medullary Subſtance in place of Blood.

SEPTEMBER 7, 1629, there was opened in my preſence, the body of a Dutch man who had languiſhed three years of a ſtrange and unaccountable diſorder. For, if any perſon put his hand on the navel, or thereabout, it was repelled by a ſtrong pulſation, as of the heart and arteries, reſembling the leaping of a child in the womb near the time of the birth. I found by the following experiment that the pulſation was ſynchronous with that of the arteries. I laid my left

hand upon the perſon's navel, and with my right touched the artery in the wriſt, when it evidently appeared that the ſyſtole and diaſtole happened in both at the ſame time. From thence I concluded, that the great artery was affected, and the diſſection confirmed my conjecture. For the vena cava, inſtead of blood, was filled with an adipoſe ſubſtance, reſembling the medulla ſpinalis, which by its weight preſſing upon the contiguous artery, the latter to free itſelf from the incumbrance, excited the pulſation. The great artery was twice larger than uſual, and full of black and ſerous blood. Mr. Andrew likewiſe diſſected the heart, which alſo was uncommonly large and flaccid, and preſſed together like a ſponge. Each ventricle too was increaſed in ſize, and replete with the ſame ſort of blood. Was it not amazing that a perſon in ſuch a ſituation could live ſo long a time? The liver was of a vivid colour, and ſound conſiſtence, but almoſt double its ordinary bulk. The gall-bladder equalled in magnitude that of an ox, and was ſtuffed with a blackiſh green, viſcid, and ropy bile, of the conſiſtence of a thick ſyrup, or rather an extract. He died the ſeventh of ſeptember 1629.

OBSERVATION IX.

Of an Impoſthume in the Liver.

AN Engliſh ſoldier was ſeized with an inflammation of the liver, which, yielding to medicine no farther than in an abatement of the pain, terminated in the hepatic flux; the tumour, which had been formerly in the hypochondria, manifeſtly diſappearing. After languiſhing ſix months in a miſerable manner, he died, totally extenuated. On opening the body, we found nothing of the liver but the membrane ſurrounding it, pretty thick like a ſack, in which there was ſtill a little ſanious matter reſembling the water wherein fleſh had been waſhed, and ſuch as he had ſpit up for a long time. He died in April, 1629.

OBSERVATION X.

Of a Wound of the Head, where the Skull was falſely imagined to be cleft.

IN May 1629, I was called by a ſurgeon to viſit a ſoldier, who had received a wound in the upper part of his forehead. The ſurgeon,

who had enlarged the wound a little about three months before, truſting to his inſtrument, called a provette, while he felt a roughneſs in the cranium, and os frontis, ſuſpected there was a fiſſure, and as yet remained of that opinion: but when I examined into the caſe, I found, that what he imagined to be a fiſſure was only an extenſion of the ſagittal future to the noſe, as ſometimes happens by a luſus naturæ. Wherefore, taking the ſurgeon aſide, I ſhewed him his error. By this time, however, the bone had been affected by the air; for which reaſon, I cauſed the patient to be carried to the hoſpital, to Mr. Andrew, and it is now the ſixth month that he has been under our care. We took away a piece of the bone from the coronal ſuture as far as to the os temporale, or petroſum, and a large fragment from the other part. We alſo took away two parts of the os frontis, diſtinguiſhed by the elongation of the ſuture, which are ſtill in the cuſtody of Mr. Andrew Duræus: and at this preſent time, November 10, 1629, the wound is healed and cicatriſed; the patient goes aboard a ſhip to-night, in good health, and in three or four days will return to his own country.

OBSERVATION XI.

Of a ſuffocating Catarrh in his excellency John Peter Coën, Eſq; governour general in the Indies.

WHEN our worthy governour Coën was for ſome time ill of a diarrhæa, ſuch was naturally his ſpirit that he abated nothing of his uſual diligence in all the offices of his ſtation; and when I have adviſed him to conſult his own eaſe, and take care of his health, he would reply, that he had not leiſure to keep his bed, as if he had ſaid in a kind of prediction, that a general ought to die in the diſcharge of his duty. At length, on the 19th of September, about eight at night, I was ſent for to viſit him in the fort. I found him labouring under a difficulty of breathing, and a dry cough. The external parts of his body were cold, and there was a cold and clammy ſweat. His ſtools, which had been preceded by bilious vomiting, were very copious, flatulent, watery, and full of bubbles. The pulſation of the artery ſo languid as ſcarce to be felt, and, at the ſame time, creeping. After weighing all theſe

ſymptoms, I immediately declared, in the preſence of their excellencies the counſellors of the Indies, Mr. Anthony van Dyemen, and Mr. Quirin a Raemburch, that the governour general was juſt a dying. Aſtoniſhed at the mention of ſo ſudden an event, as the governour, but a very little before, had been talking with them familiarly, and imagining his preſent ſituation to be only a caſual fainting occaſioned by vomiting; they wondered, they ſaid, that I could pronounce ſo raſhly the fate of ſo great a man. I replied coolly, that I had never diſcredited my profeſſion by paſſing any raſh and unwarrantable judgment; but wiſhed in the preſent caſe that my prediction might not be accompliſhed. Before one o'clock in the morning, however, the governour expired in a convulſion, which I had prognoſticated a moment before. The fate of this honourable gentleman will not appear ſurpriſing to thoſe who conſider his ſhape and ſtature: for he had a long neck, and prominent ſhoulders: his complexion was pituitous and melancholy, and obnoxious to the conſumption and ſuffocating catarrh of which he died.

SOME SELECT

OBSERVATIONS

On Epidemic Diseases in the Indies.

OBSERVATION I.

Of an Epidemic Dyſentery.

IN the year 1628, while we were beſieged by the people of Java, the honourable Mr. Jeremiah de Meeſter, a member of the Indian council, fell into a continual fever, and afterwards a dyſentery, which was then epidemical. Along with the fæces, he diſcharged by ſtool exceeding black blood, with great pain, and a very offenſive ſmell. After every remedy that could be thought of was adminiſtered, he died. In the laſt ſtage of his illneſs there appeared black and livid ſpots over his body, like thoſe we call *peepercoorn*, with a cold and fetid ſweat.

A few days after, Mr. James à Dooreſlaar, ſecretary to the governour, died in the ſame

way, of a green and malignant kind of dyſentery; many livid ſpots, reſembling the former, appearing on his legs and arms.

OBSERVATION II.

Of the ſame Epidemic Dyſentery.

AT the ſame time William Wyntgis, a counſellor of the exchequer, and my intimate friend, was ſeized with the true dyſentery, accompanied with great pain; which continuing five or ſix days with a high fever, after every thing had been adminiſtered, that the violence of the diſeaſe, and the urgency of the caſe authoriſed, to my inexpreſſible ſorrow, and the grief of all good men, this excellent youth was ſnatched off. Livid ſpots were ſo numerous over his whole body, that you could ſcarcely place the point of a pin where they were not to be found.

OBSERVATION III.

Of an ardent Fever, Dyſentery, malignant Ulcers, &c.

THE reverend and learned John Cavallerius, a preacher of the goſpel, was ſeized about the ſame time with an ardent fever. An atrabiliary dyſentery ſupervened. Which after continuing ſome days, there broke forth, under the arm pits, about the loins, the groins, and the neck, puſtules and veſicles full of green purulent matter, which eroded the fleſh, and at firſt gave us hopes of a criſis. But the Dyſentery not abating, and the fever increaſing with a phrenzy, that virtuous and learned young man was removed from the world. Then alſo, the beautiful children of Adrian Blocq died of the ſame malignant Dyſentery.

OBSERVATION IV.

An Inquiry, whether Epidemic and Peſtilential Diſeaſes rage in the Eaſt Indies.

I Have produced theſe few examples, out of ſix hundred, in order to invalidate the teſtimony of thoſe who deny the exiſtence of epidemic and peſtilential diſeaſes in this country. Whatever name others may call them by, I care not: but I am certain that the dyſentery I ſpeak of was contagious, and ſeized many at the ſame time, and quickly. Let us conſider the ſtate of the caſe. We were cloſely ſhut up by thirty four thouſand of the troops of Java, commanded by the experienced Tommagom Bauraxa, a man of diſtinguiſhed bravery. We had daily ſkirmiſhes with the enemy, many of whom were killed, not only in our ſallies, but their own aſſaults: and their bodies, which were thrown into the river, corrupted the waters. The air likewiſe was tainted by the putrefied carcaſes of men and beaſts that had died of famine or wounds, and lay unburied in the fields. Beſides, the waters were vitiated by ſome thouſand baſkets

full of the root of Serpentaria, which the Indians ſteeped in the river, in order to diveſt it of its poiſonous quality, and that glutinous ſubſtance, which, if we put the water, wherein the root has been infuſed, into a glaſs for a few hours, we may obſerve fall to the bottom like the white of an egg. They likewiſe uſed the root toaſted inſtead of rice, of which there was a ſcarcity in the camp, as they had expected to take us at the firſt attack, and not provided for a long ſiege. This will not appear ſo ſtrange to thoſe who know, that in the Weſt Indies the root of caſavi is uſed in place of bread, although the expreſſed juice of it is immediate poiſon. But to return to my ſubject. We muſt add to the noxious diet, the drinking of ſalt water. For, by means of the winds which blow from the ſea at ſtated periods, the ſea-water is forced into the river, and infects it with ſaltneſs: and we durſt not go higher up than the tide, on account of the enemy. Moreover, the river ſwarmed with worms which were generated in the bodies of the dead. The ſeaſon was the hotteſt and moſt rainy of the whole year, as being from September to the beginning of February, when the weather is conſtantly

wet, and the ſun vertical. By theſe various cauſes, I myſelf was alſo bed-rid four months, in the moſt imminent danger. At firſt I was ſeized with an ardent fever, then a dyſentery which increaſed, and for a month paſt I have been afflicted with the ſpecies of palſy called the barbiers: all which, by the bleſſing of God I have ſurvived, while my wife and ſons are ſtill labouring under the diſorder.

DIALOGUES

On the Preservation of Health, and on the Diet most suitable in the Indies.

DIALOGUE I.

Of the qualities of the air, the ſeaſons of the year, the times of the day, and the winds moſt common in the Indies.

James Bontius.
Andrew Duræus.

COME, Bontius, as we have diſpatched viſiting our patients pretty early this morning, if you pleaſe we ſhall take a turn without the ſkirts of the city, before the heat of the day, and talk together of what ſort of diet is moſt proper in this country.

Bontius.

A very good thought, Duræus: eſpecially as we obſerve daily, in our Dutch hoſpital here,

that not only the greateſt part of thoſe who are recovering from diſeaſes, ſuffer mortal relapſes by the uſe of bad and unſeaſonable diet; but likewiſe that people in good health incur dangerous diſorders from the ſame cauſe. For, hence proceed obſtructions of the bowels, the dropſy, and incurable maraſmus. But ſince the ancients divided diet into the ſix non-naturals, let us conduct our converſation upon their plan, that we may not appear heretics in phyſic.

Duræus.

What call you the non-naturals?

Bontius.

Such things as are ſubſervient to the functions of animal life: as air, meat and drink, ſleep and watching, motion and reſt, what ought to be diſcharged, and what retained in the body. The afflictions alſo of the mind. Let us, therefore, ſpeak ſeparately of each of them: and firſt of the conſtitution of the air, as being a fluid with which we are in perpetual contact, and cannot exiſt without.

Duræus.

Very well: but as the heat of the air in this country is extremely great all the year over, I ſhould imagine that this climate was very dry.

Bontius.

Not at all. Nay the air here, as well as in the adjacent iſlands and continent, is exceeding moiſt. Many arguments might be adduced to confirm this fact, but I ſhall mention only one; which is, that even in the drieſt ſeaſon of the year in theſe places, iron, ſteel, braſs, and ſilver, contract ruſt and verdegris much ſooner here, than in Europe in the moſt rainy autumns.

Duræus.

You ſay very right: and we know likewiſe, that if cloaths are laid up in cheſts here they ſoon contract mouldineſs, and, if not ſometimes expoſed to the ſun and winds, eaſily become rotten. But pray explain to me the nature of the air here around Batavia.

Bontius.

The air in the adjacent country is not very wholſome, becauſe heat and moiſture are the efficient cauſes of putrefaction, and it abounds with ſtagnant water and marſhes. Wherefore, when the winds blow from the mountains, they bring to us groſs and fetid vapours, not to ſay poiſonous, on account of the multitude of inſects, and ſo infect our air. Hence we ought carefully to guard againſt the winds which blow from the continent, and that chiefly which breathes from the mountains about the dawn of the morning, becauſe of the tepid warmth of the firſt part of the night, and the pores of the body being thereby open, which conſequently will be more affected by their penetrating quality, than in our own country by the coldeſt north winds in winter. For this reaſon, catarrhs and ſtuffing of the head, are more obſtinate here than in Holland. Beſides, the penetrating nature of this air produces that miſerable ſpecies of palſy called the barbiers, which I have taken notice of in my treatiſe on the method of curing the diſeaſes in India.

Duræus.

You have explained to me the nature of the winds which blow from the mountains; I wiſh you would now favour me with your opinion of thoſe which blow from the ſea.

Bontius.

I look upon theſe to be much more wholſome than the former. The reaſon is evident; becauſe they drive the putrefied and marſhy vapours away from us, and purify the air: hence they render the ſpirits more alert, and preſerve the humours from putrefaction.

Duræus.

What you ſay recals to my mind the winds called the ſerene, which blow from the mountains in the ſouth of France, the neighbouring parts of Spain, and in Italy, in the territories of Rome and Naples, and which, by a moderate coolneſs, rather ſooth than chill people, who unwarily expoſe themſelves to their influence, and eſpecially ſtrangers. Wherefore, ſpitting of blood, conſumptions, aſthmas, and other diſorders of the lungs, often incurable, are frequent in theſe places.

Bontius.

Your remark is juſt: and I remember that Horace elegantly obſerves

Matutina parum cautos jam frigora mordent.

Duræus.

But as in all parts of the earth there are annually regular viciſſitudes in the ſtate of the air, whence the various ſeaſons are diſtinguiſhed, I ſhould be glad that you would demonſtrate to me the ſtate of the ſeaſons in Java.

Bontius.

I ſhall do that with great pleaſure. As through the whole courſe of the year, then, the changes which happen here in the ſtate of the air are only in reſpect of dryneſs and moiſture, we have, properly no more than two ſeaſons in this country. For with regard to the variations of heat and cold, the temperature of the air is for the moſt part equal, as the ſun recedes not much from the equator. We ſhall therefore divide the ſeaſons into dry and wet, which correſpond with our ſummer and winter.

Duræus.

At what time then do you reckon the ſummer here to commence?

Bontius.

When continual rains begin to fall. For then the ſun, being nearer the equator, ſtrikes us vertically, and exhales the vapours from the ſea, lakes and marſhes. This ſeaſon commences with November, and continues till the beginning of May: the rains through that whole period being ſo exceſſive and uninterrupted, that people, unacquainted with the country, might be afraid leſt the deluge of Deucalion was returning. On the contrary, from the beginning of May to the end of October, the air is perfectly ſerene and dry, ſcarce a drop of rain falling during the whole ſix months. This is quite different from what happens in our country, where, when the ſun is receding, the weather becomes rainy, and, as he approaches, more dry. But notwithſtanding theſe circumſtances, the ground here is much more fertile, both on account of the quantity of dew which falls in the night, and the temperate nature of the mornings and evenings,

which are as mild as the ſpring: but of that afterwards.

Duræus.

What ſeaſon of the year do you think the moſt healthy?

Bontius.

From what I have ſaid, it muſt be plain that the rainy ſeaſon, or ſummer, is the moſt unhealthy, as the heat and moiſture of the air are deſervedly reckoned by naturaliſts the efficient cauſes of putrefaction. For unleſs the morning and evening breezes, which prevail in that ſeaſon, and the thick and cloudy conſtitution of the air, protected from the heat, this country would be uninhabitable. But theſe ſubjects are learnedly and amply treated of by Joſeph à Coſta, in his natural hiſtory of the Indies, which may be conſulted. On the other hand, in the dry ſeaſon, and during a clear ſtate of the air, the people here are healthy. For then, too, the winds blowing with greater coolneſs, ventilate and purify the atmoſphere ſtill more.

Duræus.

From what you obſerve of ſummer and winter depending on the vicinity and abſence of the ſun, I find that we have winter in this part of India while Holland is flouriſhing with ſpring and ſummer: and, on the contrary, that ſummer is here, while winter poſſeſſes our native land.

Bontius.

It is ſo.

Duræus.

But what think you of the times of the day, and their temperature?

Bontius.

I ſhall divide the times of the day into morning, forenoon, afternoon, and evening, under which we may comprehend the night. In regard to the qualities of each of theſe, the morning and evening are the moſt wholſome parts of the day, and moſt proper for exerciſe or labour. Becauſe then the winds blowing from the ſea and mountains, ventilate and cool the air. But to begin with the morning. That

I call the portion of the day extending from five o'clock till nine, when ſoft and gentle gales refreſh the air, as the breezes of May in Holland. The forenoon continues from nine to twelve, during which the heat is extremely great, but from that period till four in the afternoon, is moderated by breezes from the ſea. We ſhall include under the evening the ſpace of time betwixt four in the afternoon and ſix, or a little paſt ſeven, when the ſun ſets. If any buſineſs, therefore, is to be done in the day, the moſt proper time for it is the evening and morning. Going abroad in the forenoon ought to be entirely avoided, on account of the violent heat; the effects of which are ſo manifeſt, that a perſon will find himſelf more fatigued in a quarter of an hour at that time, than in eight times the ſpace at any other. I would adviſe to abſtain alſo from buſineſs out of doors, from twelve till four in the afternoon: however, that time is not ſo unwholſome as the period preceding.

DIALOGUE II.

Of Meat and Drink: particularly Fleſh, and Fiſh.

Duræus.

HAVING explained the qualities of the air in theſe parts of India, together with the ſeaſons of the year, the hours of the day, and the temperature of the winds, it would give me great pleaſure to know your opinion in regard to the moſt proper times of eating.

Bontius.

I ſhall chearfully comply with your requeſt. Know then, that in general the breakfaſt ſhould here be the beſt meal, the dinner ſhould be moderate, and ſupper light: and that I may not ſeem to impoſe theſe rules capriciouſly, I ſhall tell you the reaſon.

Duræus.

Pray do.

Bontius.

It is certain that in this climate the ſtomach is beſt diſpoſed for performing digeſtion in the morning, on account of the cold of the preceding night. I adviſe a moderate dinner, leſt while we take a nap after it, on account of the heat, the ſtomach, being too much loaded with food, ſhould produce crudities, and diſorders thence ariſing. For many diſeaſes here are owing to a cold cauſe.

Duræus.

Well, I cannot conceive how cold diſeaſes ſhould predominate in hot countries.

Bontius.

But when you examine into the cauſe you will be leſs ſurpriſed. For, by the conſtant evaporation of the ſpirits through the pores of the ſkin, the bowels which perform digeſtion are deprived of heat, and hence their concoctive faculty being weakened, they tranſmit crude and undigeſted humours to the meſentery and liver, and afterwards through the whole habit of body. It is not ſtrange, therefore, that people who live in the northerly climates ſhould be more lively than the inhabitants of the torrid zone: for the cold

of the air increaſes the internal heat of the body. Hence Hippocrates obſerves, that *the belly is hotter in winter*, and on that account ſays, elſewhere, that *people ought to eat moſt in the winter*.

Duræus.

You have fully ſatisfied my doubt: let us now, if you pleaſe, talk of the kinds of food that are either hurtful or advantageous in this country.

Bontius.

Come then, I ſhall regale you with an imaginary dinner, as I believe nobody has invited us to day.

Duræus.

But don't make camæleons of us; you know they are ſaid, though falſly, to live upon air.

Bontius.

No, no: inſtead of empty air, I ſhall fill your ears with agreeable converſation. Let us, then, diſtinguiſh food into different claſſes, and in the firſt place talk of fleſh. The moſt wholſome of that kind is the fleſh of hens, with which this iſland abounds; birds of the woods and mountains, as turtles, pidgeons, quails; of the ſmaller

ſort, ſparrows, chaffinches, fig-peckers, and thruſhes, with all which the woods and fields plentifully ſupply us. The ducks, geeſe, and other water fowls of this country are likewiſe excellent.

Duræus.

I am ſurpriſed to hear you rank the fleſh of theſe aquatic fowls among wholſome meat, as they are eſteemed the very oppoſite in our country, becauſe living in ſtagnant lakes, and marſhes, they feed on ſlime and dirty weeds.

Bontius.

You ſay right, but the caſe is different here. For, in this country, ſuch birds live not in lakes and marſhes, but in the rivers, on which account their fleſh is much better. Beſides, they may be brought up at home upon rice and crumbs of bread, and then their fleſh becomes as delicate as that of hens and capons. Here alſo are cranes and herons, which are not deſpicable food.

Duræus.

What kind of fleſh do you reckon the next in goodneſs?

Bontius.

That of goats: for we muſt abſtain from ſheep here, on account of their ſcarcity. Then, veal and beef, the beſt of which we have wild in the woods. The fleſh of the buffalo is not at all contemptible; young ones I mean: for the fleſh of the old is ſo hard as not to be chewed even with the iron teeth of the paraſite Plautinus.

Duræus.

But what think you of the fleſh of wild beaſts?

Bontius.

You aſk me a very proper queſtion. Of theſe, then, I reckon the boar to be the beſt; even the tame hogs here are excellent, and of eaſy digeſtion, different from what they are in our country, and are preſcribed very properly for the ſick. We have here likewiſe a great many ſtags. All theſe wild creatures the ſoldiers ſhoot with their muſkets, and bring daily to the market.

Duræus.

I know: but leaving this ſubject, let us next talk of fiſh.

Bontius.

In order to do that with more preciſion, we ſhall ſpeak ſeparately of the fiſhes of the ſea and freſh water. Among the former, that fiſh which the natives call *cacap*, is in my opinion the beſt: it is a ſpecies of carp, named by the Dutch, *ſteen-braaſſems*, and which is ſometimes taken of ſo large a ſize, as to equal the cod fiſh.

Duræus.

Are there here any of the large kind of cod which the Dutch call *cabeljau*.

Bontius.

There is a ſpecies of them taken here, which our ſailors call *Jacob Everſten*, on account of black ſpots and excreſcences ſcattered over its yellow ſkin, and reſembling, as they ſay, the complexion of a ſoldier of that name. There is here, beſides, a great quantity of carp, of various figures, broad, round, and oblong; of which the red are the beſt. We have alſo moſt delicate ſcars, that ſerve us inſtead of perches, and which are deſcribed by Belonius in his obſervations. A kind of ſalmon is likewiſe taken, which the Maldivians call Jean-Banda, ſignifying a fiſh of Banda, as

being caught in great plenty on the coaſt of that iſland. It differs from the ſalmon only in colour: for what is red in that, is white in the fiſh of Banda. But the fleſh of ours is more dry, and on that account, more wholſome, if we believe Pliny, who declares, that the fat of all fiſh is bad, and that of eels the worſt.

Duræus.

What think you of the gilt heads, the corcovadæ, bonitæ, and theſe kinds of fiſh?

Bontius.

I am of opinion that all theſe are ſpecies of the tunny fiſh, and dolphins, both on account of their great velocity in ſwimming, by which they can ſurpaſs a ſhip in full ſail, and alſo becauſe they leap to the height of five or ſix feet from the ſea, to catch water-ſwallows, or flying fiſh, which have a good flavour, and when their wings are taken off, reſemble herrings, both in ſhape and taſte. But among theſe dolphins the moſt excellent is the gilt-head, called by the Portugueſe, dorado, becauſe of its golden colour. The fleſh of the others is harder, and conſequently more difficult to digeſt. But with good ſtomachs they agree very well; ſince, as Celſus obſerves, healthy people need not very delicate diet.

Duræus.

What of the flat ſea fiſhes? ſhall we conſign them entirely to oblivion?

Bontius.

I meant only to reſerve them to the laſt; for without queſtion, they are amongſt the moſt wholſome kinds of fiſh. The principal in that claſs are, the rhomboides, ſoles and turbot, of which the rhomboides afford the beſt nouriſhment, next the ſoles, and laſtly the turbot, which were ſo luxurioufly ſought after by the Romans, that hence the ingenious Juvenal inveighed, with great poignancy of ſatire, againſt the cruel and trifling age of Domitian. We have likewiſe rayas, ſmooth and ſpotted; which, by how much the younger, are of eaſier digeſtion: for, from the older I would adviſe to abſtain, as from the lamia, and larus fiſh *hayen*, which, by their extreme ſharp and crouded teeth, have deſtroyed ſuch numbers of ſailors, unwarily ſwimming in the ſea. The ſea paſtnaca, by the confeſſion of the Chineſe fiſhermen, carries a poiſonous ſting in its tail, which being cut off, the fiſh is eatable, but heavy and unwholſome. Therefore I would leave to the Chineſe and Moors their favourite

dainties, contenting myſelf with the fore-mentioned flocks of Neptune, as Plautus calls them.

Duræus.

I have now had my full of ſea fiſh, and wiſh that you would next preſent me with thoſe of the freſh water.

Bontius.

Immediately. Firſt then, here is the ſalmon trout, or round carp, which, both in fleſh and taſte, I think, exceeds thoſe of our country, becauſe here it inhabits the rivers, not lakes and marſhes, as with us; and as I formerly gave the preference to the Indian ducks, ſo muſt I likewiſe to theſe fiſhes, they having leſs of a ſlimy taſte, than the trouts of the ſame ſpecies in Holland. They are caught ſometimes of ſo large a ſize, white ſkin, and delicate fleſh, that nothing can be finer. Beſides theſe, there are in the channels of rivers, the pike, which, however, whether they are ſea or freſh water fiſh I am doubtful. But thoſe caught in the ſea are certainly larger, of a white ſkin, and moſt delicious taſte, either roaſted or boiled. Mullets alſo, *harders*, and the ſpecies of fiſh, called in our country *houtinck*, are taken here in ſo

great plenty, that the poor live almoſt entirely upon them.

Theſe two kinds of fiſh, at ſtated periods, namely, from October to April, are fat and extremely delicious, by reaſon of the rains which ſweeten the ſalt water (for theſe fiſh are likewiſe taken in rivers). But in a drier ſeaſon, their fleſh is harder and more prickly. Bleaks too, like our *voornen*, are taken here in the rivers, of excellent taſte and nouriſhment. Alſo large congri, *congerael*, are ſometimes caught in the mouth of rivers, but oftner in the ſea; for which reaſon, I ſhould be inclined to rank them among the ſea fiſh. I ſhall now mention the more unwholſome kinds of fiſh. Among theſe are eels, the ſkin of which, on the upper part, is extremely black, and below, of a dirty yellow. It is certain that they copulate with ſnakes; and though many people reckon them delicious eating, yet for my own part, I diſlike them, both for the reaſon juſt mentioned, and the nauſeating fat with which they abound. There is, beſides, a fiſh, covered with very hard ſcales, which the Malaians call jean caboſch. From the figure of the head, and other parts of its body, I take it to be a river-mullet: it lives in a ſlimy bottom, and ſavours

not obſcurely of its origin. Moreover, we have a ſpecies of the tenea, *ſeelt*, of a ſmooth ſkin, without ſcales, taper like an eel, and furniſhed with two wings. And laſtly, great quantities are taken here of the fiſh which the Dutch call *puytael*, from the head of a toad: but as to people who are fond of theſe kinds of fiſh, together with river lampreys, I envy not their taſte. I could enumerate many other ſpecies of fiſh, but ſhall only mention the crab fiſh, lobſters, oyſters, and large ſhrimps, which, beſides every other kind of ſhell fiſh, are excellent in this country. Allow me to add the amphibious tortoiſes, with their delicious ſubſtance, if we may credit thoſe who affirm to have eat of them: but it is probable that ſuch dainties would ſcarcely have been reliſhed without a very ſharp appetite. I ſhall rank the tortoiſes among thoſe medicines, or rather medicinal aliments, which are proper for pthiſical perſons, and ſuch as labour under any empyema; as by their glutinous quality they tend to conſolidate the lungs.

DIALOGUE III.

Of Rice and Bread in the Indies. Of Drink, Wine, and Arrac. Of Drink made of Water, Sugar and Tamarinds. Of natural Liquors drawn from Trees.

Duræus.

AS prepared rice is much uſed in theſe places inſtead of bread, I beg to know your opinion of that production, eſpecially as it is a ſolid kind of food, and ought, as a baſis, to ſupport the other aliments, and prevent their fluctuating in the ſtomach.

Bontius.

I always take a pleaſure in informing you of my ſentiments. If, as uſual, a ſufficient quantity of wheat was imported to us from Japan and Surat, I would very readily diſpenſe with rice; becauſe the bread made here of wheat flour is nothing inferior to that in our own country, and

in my opinion, affords better nouriſhment than rice. But if there ſhould be a ſcarcity of wheat, then that rice is to be choſen which is the whiteſt, of a clear colour, and weighs heavy: and when baked, it ought always to be let cool before it is uſed. For experience evinces, that hot rice is not only hurtful to the ſtomach, but alſo to the brain and whole nervous ſyſtem: and from the groſs and dry vapours riſing to the head from this aliment, the optic nerves are frequently ſo much obſtructed as to induce a total blindneſs; of which diſorder I have treated in my method of curing the diſeaſes in India. Hence you will ſeldom or never ſee the Javans or Maldivians eat hot rice: becauſe the Indians, of all people, are the moſt careful of preſerving their health, and obſerve a regular and temperate courſe of diet.

Duræus.

But hark! friend: you preſent me with too dry a repaſt—*Nos miſeri aremus, nec quod potemus habemus.* "We are fit to choke of thirſt, and "have nothing to drink." Pray, give us ſomething to drink.

Bontius.

You are very right. Indeed my throat is become dry with ſpeaking: but as we have no other liquor, let us take a draught out of the river; and firſt, we ſhall ſpeak of pure and ſimple water, for that is a drink which is common to us with every other creature.

Duræus.

What think you, then, of this river, which flows through our Batavia?

Bontius.

I think the water is of no bad quality, if drawn a little higher up the river: for the mouth of it is tainted with a ſaltneſs by the tide; and this was partly the reaſon that in 1628, when we were cloſe beſieged by the Javans, and durſt not venture far from the garriſon, many of us fell into the dyſentery by drinking ſalt water. I ought, indeed, to add, that the dead bodies of the enemy who were daily killed in our ſallies, affected with putrefaction, by ſwimming on the ſurface of the river, not only the water, but the air.

Duræus.

But may we not drink of factitious liquors here: pray, what think you of that kind?

Bontius.

Although we don't drink ale, it is not that it cannot be brewed here, but becauſe on account of the heat, it would ſoon become ſour. Otherwiſe we might have as good ale as in our own country: for, as I obſerved before, we are plentifully ſupplied with wheat from Surat, and malt may be made even from rice. Of that I have ſeen an inſtance at Mareſchall's an eminent merchant in this city, who made ale of that grain, noways inferior to the Dutch in point either of ſtrength or taſte. However, by the heat of the air it ſoon became ſour: and certainly that liquor is not wholeſome in this country; though what is prepared in the following manner, is perfectly ſo.

Take a veſſel well girded with iron hoops, containing eight gallons or more, according to the number of the family: fill it with river water, into which put two pounds of Javan black ſugar,

four ounces of tamarinds, three citron apples, cut. Let the whole be placed in a cool ſituation, well covered, and ferment for twenty-four hours. What is ſurprizing, it boils without any fire under it, in ſuch a manner that people at a diſtance may hear the ſound: juſt as ale in our country is boiled with a ſtrong fire. It then throws a ſcum to the top, which is taken off by removing the cover. This is our daily drink: it is very agreeable to the palate, and not near ſo heavy as the former. And for the ſake of a jeſt, I have made a great many people, who had newly come here from Holland, depart in the belief that I had entertained them with Engliſh or March ale, the taſte of which it will reſemble ſtill more if you throw into the veſſel a handful of cloves.

Duræus.

But what is your opinion of the drink made here of ſix parts of water, and two of wine, fermented in the ſame manner in narrow ſtone jugs.

Bontius.

That drink is limpid and cold, indeed, and for that reaſon, uſeful at meals: but I think it is not ſo proper at other times, on account of a penetrating acid, which makes it injurious to the breaſt.

Duræus.

But which of the wines here do you reckon the moſt wholeſome; the French or Spaniſh?

Bontius.

Some prefer the French; but in my opinion they are wrong: for I think that either Spaniſh or Cretan wine is more ſuitable for this climate.

Duræus.

But is it not contrary to reaſon, to give ſtrong and ſpirituous wines in ſo hot a climate?

Bontius.

When I explain to you the expediency of it, perhaps you will be of my opinion. The heat is ſo great here, eſpecially from ten in the forenoon to three in the afternoon, that people ſweat a great deal; whence the innate heat of the

body is weakened, and the organs ſerving for the digeſtion of the food and chyle become more cold, different from what happens in northern countries, where, according to the maxim of Hippocrates, the bowels are warmer in the winter, the cold of the air augmenting the inward heat of the body. This opinion is farther confirmed by the experience of merchants who travel through the deſarts of Arabia into Perſia or Turkey, who, during the greateſt heats, ſlake their thirſt moſt eaſily with a draught of brandy, or the ſtrongeſt Perſian or Spaniſh wine. For, if they ſhould conſtantly drink water to their thirſt, they would without queſtion fall into a cachexy and remarkable tumour of the belly, and in the end into a dropſy itſelf. Add to this, that all the French wines brought here from Holland are impregnated with the fume they call *lucht*, which as it conſiſts of an arſenical ſulphur, and colophony, gives the wine a pernicious and cauſtic quality, though it makes it retain its flavour a longer time. Whence I have ſeen ſome people here fall

into a mortal dyſentery, from only taking a hearty draught of French wine.

Duræus.

From what you have ſaid, I find that you are no enemy to aduſt wine nor the Chineſe arrac.

Bontius.

I approve of the moderate uſe of them: but I condemn the abuſe. If therefore, a perſon, for the ſake of ſtrengthening his ſtomach, ſhould take two or three ounces of that liquor morning or evening, I would ſay he did not do wrong: but if French brandy can be had for that purpoſe, there is certainly no occaſion for arrac. And if there is a ſcarcity of the former, that ſpirit is to be preferred which is made of the liquor contained in the Indian nut, and of the tree itſelf, diſtilled with rice. But that which is prepared by the Chineſe, the moſt avaritious and crafty wretches on the face of the earth, of that excrementitious marine production which the Dutch call *quallem*, is to avoided as death itſelf. For that vile ingredient is of ſuch a burning heat, that the bare touch of it raiſes veſicles on the

ſkin, and hence ulcerations of the lungs, ſpitting of blood, conſumptions and death enſue: and this is the reaſon why, as Plautus ſays, men live ſo ſhort a time; becauſe they tear and abrade their bowels, as with a heckle or a harrow.

DIALOGUE IV.

Of natural Drinks taken from Trees, called in India Toruvat and Saguër, and of the Liquor contained in the Indian nut.

Duræus.

IN our converſation hitherto, you have given me the higheſt ſatisfaction; and I ſhould now be glad to know your opinion of thoſe liquors which are taken either from fruits or trees.

Bontius.

You are to know, then, that there are three kinds of ſuch liquor. The firſt is contained in the cavity of the Indian nut; the ſecond is taken from the flowers of the ſame tree; and the third, which is very common in Banda and the other Molucca iſlands, diſtils from a tree not unlike the Indian palm. This liquor is by the natives called ſaguër. Theſe three are very frequent over all India. It may be affirmed of the whole, in general, that they are endowed with

a cooling quality, and hence are injurious to the nerves if too copiouſly drank, eſpecially when the body has been heated by exerciſe or the ſun. Theſe drinks, therefore, ought to be ſparingly taken: for it appears, that, by the frequent uſe of them, and particularly of that called ſaguër, not only obſtinate diarrhæas have been induced, but alſo the ſpecies of palſy known by the name of the barbiers. Hence it is, that in Banda, and the other Molucca iſlands, eſpecially thoſe ſubject to us, moſt of the people are cachectic, and of a pale yellowiſh colour: and ſcarce one of our Batavians eſcapes the fore-mentioned palſy, which is alſo experienced by the Portugueſe, who are far more temperate, not only in this kind of drink, but in every other part of diet.

DIALOGUE V.

Of Aromatics, and their uſe—where ſome things, imperfectly treated of by Garcias ab Orta and other writers, are explained.

Duræus.

You have regaled me with a very plentiful repaſt in idea; but it is ſimple, and not ſeaſoned with any ſpices, although aromatics are nowhere produced in greater abundance than in Java.

Bontius.

How nice you are! Don't you know that nature is contented with ſimple food? However, that I may not ſeem to paſs over theſe things through negligence, I ſhall not leave you unſatisfied; and I ſhall ſpeak of aromatics not what I have learned by hearſay, but what I am certain is true from my own experience. The qualities of pepper are ſo well known over the world, that it is needleſs to ſay much of them. If we conſider the manner in which pepper grows, we

muſt allow it to be a ſpecies of convolvulus, or vine grub: for it climbs up trees and poles exactly as that plant. The cluſters of it are pickled with brine and vinegar, to excite an appetite, and are ſerved to table here with roaſt or boiled meat. In the ſame manner the inhabitants pickle the recent roots of ginger, galangal, the fruit of the mangos, carambola, billingbing, turmeric, with young cucumbers, melons, and pumpions, which ſerve here inſtead of capers and olives, though at the ſame time we are in no want of theſe delicacies, as we can be annually ſupplied with them from Perſia and Surat. What Garcias ab Orta relates of the opinion of the Javans and Indians, concerning a cold quality in pepper, is ridiculous. Such a doctrine can be founded only on the ſame principle with that of the ancient ſophiſts, who were ſo bold as maintain that fire was cold, and ice and ſnow hot. To the writers above referred to, I would reply with Ariſtotle, that experience was the only argument to be uſed againſt their affirmations. But perhaps they meant, that, by too liberal a uſe of pepper, the native heat was thrown out, and weakened internally, and ſo the temperament of the body rendered cold. But I believe the Indians

reaſon not ſo deeply. They have the ſame opinion of cloves as of pepper.

Duræus.

What think you of mace and nutmeg?

Bontius.

It is my opinion that they ought to be ſparingly uſed in theſe places: for they load the ſtomach with their oilineſs; and by the vapours which they ſend to the head, induce drowſineſs and ſleep. Nay, I have ſeen ſome whoſe lives were not a little endangered by too free a uſe of nutmeg; and have lain for two whole days, mute and immoveable, like thoſe in a carus; a manifeſt proof that the brain and nerves were greatly affected. In the iſland of Banda, they alſo make a pap of the green bark of the nutmeg tree, which they preſerve with ſugar, and then it exactly reſembles in taſte the ſour apples, which are preſerved in the ſame manner in our country. And we too here in Java make a very palatable pickle, of much the ſame ſort, of the bark of the nutmeg ſalted, and previouſly macerated in water. But experience demonſtrates, that it alſo gives a

tendency to ſleep, for which it ought to be uſed with caution.

Duræus.

I perceive, then, that you do not approve of much ſpices along with meat.

Bontius.

I do not: however, I except cardamoms, which, by their mild and agreeable warmth, may be chewed without any bad effect. That plant grows plentifully in Java, and is much uſed by the Malaian women, in dreſſing their meat.

Duræus.

The calamus aromaticus, which is here in ſo great abundance, pray is it not made uſe of in the kitchens?

Bontius.

Yes, and very deſervedly, though Garcias ab Orta acknowledges no other uſe, either of it, or the ſweet ſmelling reed in India, than for bedding horſes: but had he been as diligent in inveſtigating the qualities of aromatics, as diſcerning in

reading Arabian phyſicians, he would not have been ignorant of the uſes of that plant: for over all India, ſcarce either fiſh or fleſh is dreſſed without a bit of calamus aromaticus, or the ſweet ſmelling reed along with them, both to improve their flavour, and ſtrengthen the ſtomach. The nard, which grows here in the mountains, I hold in the ſame eſteem. Infuſed for ſome days in vinegar, as the dry flowers of marygold with us, it admirably reſiſts the putrefaction of the humours. I have never yet ſeen green nard, becauſe the mountains here are inacceſſible, on account of the number of tygers, and Javan robbers.

Duræus.

You ſaid before, that the root of turmeric alſo was made uſe of in dreſſing meat.

Bontius.

And ſo it is. Garcias ab Orta calls that root crocus Indicus, Indian ſaffron; not that its filaments have any reſemblance to the Britiſh ſaffron, but becauſe it dies a yellow colour. Garcias, who never ſaw theſe roots growing, gives it as his opinion, that they cannot be taken into the

body without producing miſchief: but he may have poſitive evidence from me to the contrary. I, who have ſeen the plant a thouſand times, and elſewhere deſcribed it, do not only affirm that it may be advantageouſly mixed with meat, but have alſo ſhewn, in another book, that it is of excellent uſe in medicine. What I have ſaid may be ſufficient on the ſubject of aromatics.

Duræus.

Often have I wondered to ſee the Malaians and Javans, and the Chineſe too, eat ſo greedily of the fruit of the mandrake (which the Portugueſe call Pomo d'oro) as they are cold in the greateſt degree.

Bontius.

Softly. Don't you know that they mix with them the fruit of the ricinus Americanus, or America ſeeds, which the Malaians call Iada Chili, which is to ſay, the pepper of Chili? Thus they correct the extreme coldneſs of the one by the exceſſive heat of the other; and with the addition of a little vinegar and oil, eat them both to fiſh and fleſh, to which they give an agreeable enough reliſh. There are ſome peo-

ple who chew the ricinus, as tobacco : but for my own part, I ſhould not chuſe to join them. For, once when I tried it out of curioſity, I excoriated my whole palate and tongue by its cauſtic pungency. Hence we may ſee the force of habit.

DIALOGUE VI.

Of Fruits.

Duræus.

AS our entertainment ſeems now to draw to a cloſe, I hope you don't intend to let us go without a deſert.

Bontius.

By no means. Let us therefore begin with fruits, of which we have here great variety. Thoſe are the beſt which have an aſtringent taſte; and the worſt are ſuch as are ſweet to the palate. But let us taſte a little diſcourſe of each of them. The firſt that preſents itſelf is the fruit of the mangos, which grows upon a very high and ſpreading tree, like our oak. This fruit, when unripe, is of an extreme acid taſte. After the bark and ſhell are removed, a pap is here made of the inner ſubſtance, which

has ſo much the taſte of our apples, or gooſeberries, that ſcarce a perſon could diſtinguiſh any difference. The fruit, thus prepared, is very beneficial in ſtrengthening the ſtomach and bowels: when fully ripe, it is not ſo wholſome, but if eaten in moderation, can do no hurt.

Duræus.

What is your opinion of the Durios, Jaacæ, and the other fruits that are covered with prickles?

Bontius.

The Durios, as they have a garlic ſmell, are apt to be diſagreeable at firſt taſting: however, they deſerve to be reckoned among the moſt wholeſome fruits in India: for they are diuretic, promote perſpiration, and diſcuſs flatulence; though, if taken in too great quantity, they inflame the blood, and produce puſtules in the face. We may place them among the alimentary medicines, of which I have treated in my method of cure.

Duræus.

I agree with you: but in what rank do you place the ananas, that moſt fragrant and delicious fruit?

Bontius.

If its other qualities correſponded with the epithets you have beſtowed upon it, I would boldly affirm that there was not a nobler fruit in the univerſe: but it is of ſo cauſtic a nature, that the juice of it erodes ſteel and iron; hence, if not macerated for ſome time in wine or water, it excoriates the palate and tongue, and cauſes a horrible cholera, and frequently a mortal dyſentery.

Duræus.

As to the Jaacæ, I imagine their ſweet taſte will be ſufficient to recommend them.

Bontius.

So far from that, I think they are extremely unwholeſome; as their fleſh is tough and hard, and diſcharged by the inteſtines, almoſt as unconcocted as it is ſwallowed: whence it produces crudities in the ſtomach and bowels,

which beget obſtinate and troubleſome diarrhæas, and afterwards a teneſmus that is often concluded with a mortal dyſentery.

Duræus.

Pray what fruits were they which you commended a little ago for their aſtringent taſte?

Bontius.

Theſe were, firſt, the jambos fruit, of a moſt beautiful white colour, inclining to purple. They have almoſt exactly the taſte of the capreæ vitis. They greatly aſtringe, and on that account are a good remedy in dyſenteries.

There is alſo brought to us a fruit, called lances, which grows in cluſters as the grapes, of a round ſhape, and about the ſize of a plum. It bears a kernel, which is covered with a white ſubſtance of a vinous taſte, reſembling the uva urſina in our country. Like to that, in taſte, is the fruit called by the Javans boa rampout, ſignifying hair, becauſe the bark ſurrounding the fruit is covered with ſome ſmall threads. The kernel perfectly reſembles that of the lances, and agrees with it in its cold quality. The

bark of the lances, however, emits a milky juice, which is very bitter and corroſive. There is likewiſe here the fruit called by the natives billinbing, of the ſhape of a young cucumber, and ſo extremely acid to the taſte, that it may be ſaid to be ſowerneſs itſelf. It is remarkable, that if a perſon's teeth ſhould be ſet on edge by eating any other acid fruit, immediately on taſting the billinbing, the ſharpneſs is no more felt; for the ſame reaſon, I ſuppoſe, that in other caſes the ſenſe of a ſmall degree of pain is extinguiſhed by the ſeverity of a greater.

Duræus.

What ſay you of our Indian figs?

Bontius.

Proſper Alpinus calls that fruit muſa, the Malaians banana, and the Javans pyſang. It is of an agreeable taſte, reſembling much the pear, which, on account of its ſweetneſs, the Dutch call *Suycker peren*. If this fruit is eaten crude, it is very flatulent and nauſeating, ſo as ſometimes to make people, unaccuſtomed to it, vomit. The beſt way of taking it, is with bread

and boiled rice, adding a little cheeſe, without which it is apt to produce the dyſentery and cholera. Juſt as in France and Spain, a perſon who eats a quantity of grapes without any bread, is certain of falling into a dyſenteric flux. The moſt wholſome way of eating this fruit, is to dreſs them in a frying pan with eggs, by which they become beneficial in conſumptions, aſthmas, and other diſorders of the lungs. Externally applied to inflammatory tumours, they promote ſuppuration.

Duræus.

But where are the mangoſtan, jambos, and Bengal quinces?

Bontius.

I reſerved theſe for the laſt courſe, that we might conclude our entertainment with the Chineſe tea, and, according to the cuſtom of the country, give you ſome ſyrii pynang. The jambo, then, is of the ſize of the plumtree, and excepting that its leaves are ſomething ſhaper in the point, would entirely reſemble it. It bears a red flower, and a moſt beautiful white fruit, inclining a little to purple. The taſte is aſtringent, and much

like that of the tendrils of the vine; its reliſh not fully correſponding with the beauty of its appearance. It is of a cold nature, and therefore uſeful to allay the heat produced either by exerciſe or fever. Garcias ab Orta deſcribes the Bengal quinces b. II. c. 14. I ſhall therefore only add, that the kernels are taken out of them, and preſerved whole, either with ſugar, or brine and vinegar. We are ſupplied with them out of the Portugueſe ſhips, which trade from Surat, and the Coromandel coaſt to Malacca. For no people in the world are ſo much noted for making preſerves as the Portugueſe: ſo that it is a common proverb over Italy, that the Indians ſpend their money on perfumes, and the Portugueſe on preſerves. The taſte of the quinces reſembles much that of our large autumnal pear, commonly called *winter-peren*. The fruit mangoſtan has ſo delicious a flavour, that in my opinion, it excels all the fruits in the Indies. The bark of it is exactly like that of the pomegranate tree, unleſs that on the upper part, it has a crown like the poppy, by the number of ſtalks in which is determined that of the kernels, which are covered with a white ſubſtance, of a ſweet vinous taſte, excelling the ſtrawberry and ananas.

Duræus.

I hope you have not forgot the Chineſe drink they call tea. What is your opinion of that?

Bontius.

The leaves of the tea ſhrub reſemble thoſe of the common daiſie, and have ſmall notches in the edges. The Chineſe method of uſing them is, to throw a handful of the leaves into a kettle of boiling water, which is let remain upon the fire a ſufficient time. The decoction ſo made is of bitter taſte, and is ſipped warm. The Chineſe regard tea as a ſacred drink; with it they welcome ſtrangers, and with it they take leave of their gueſts; nor do they think they have fulfilled the laws of hoſpitality without giving it. They eſteem it in the ſame degree as the Mahommedans do their caveah. It is of a drying quality, and hinders ſleep by ſending up vapours to the brain; but it is of advantage to the aſthmatic. Why need I mention oranges, citrons, pomegranates, and other ſuch fruits, which are here in great abundance, as they are ſo well known in Europe? Of all theſe we make ſyrups, which, mixed with water, afford pleaſant and

refreſhing drink, both to the healthy and the ſick. I ſay nothing of vines, which, if carefully dreſſed, yield ripe fruit four times in the year. Wherefore, if we have not daily heat, we have, however, perpetual ſpring and verdure, and the real gardens of the Heſperides.

DIALOGUE VII.

Of Pot-herbs, Pulſe, and ſome eſculent roots in India.

Duræus.

HAving now finiſhed our imaginary entertainment, as we are returning home, let us at leaſt gather a few pot-herbs for ſupper.

Bontius.

Tell me what you chuſe to have firſt.

Duræus.

I ſhould be glad to know ſomething of what the people here call batatas (potatoes).

Bontius.

They are full of nouriſhment, but abound with a melancholic juice, not unlike that of the cheſnuts in Europe, the taſte of which, theſe roots, either when roaſted under the aſhes, or boiled with fleſh, very much reſemble; only they

are a little ſofter, and more moiſt. But if they are ſprinkled with ſalt, oil, pepper, and vinegar, they ſerve inſtead of red beet in our ſallads.

Duræus.

We have a great many garden radiſhes here. What think you of them?

Bontius.

Of theſe you know we have two kinds: the firſt is ſhort and round, or reſembles a cylinder, and is uſed in place of turneps. The other is more long and tapering, like our radiſhes in Holland, and is eaten crude, as there, with bread, butter and ſalt. But the radiſhes here are much better than in our country; being neither ſo woody, nor worm-eaten, but more reliſhing.

Duræus.

What opinion have the Indians of pot-herbs?

Bontius.

They hold all herbs whatever in great eſteem. For moſt of the people who come here from Surat and the coaſt of Coromandel, live almoſt

entirely upon vegetables, after the manner of Phythagoras;

—— Cunctis Animalibus abstinuit qui,
Tanquam homini ac ventri indulsit non omne legumen.

So these people still abstain from red beans and whatever among the herbs is of a red colour. Hence it happens that people, who in other things are very dull, have yet a perfect knowledge of herbs and plants; so that if the learned Pauwius, the greatest botanist of our age, could rise from the dead, he would be amazed to find that these Barbarians could instruct him in the science. The Malaians call all esculent herbs by the name of seir, and all medicinal herbs, and poisons, by that of oubat. To confine our subject within as narrow limits as possible, I shall just enumerate the other herbs made use of in diet in this country. Here, then, have we both kinds of beet, red and white, and parsley in great abundance. All kinds of lettuce, anise, fennel, and we have lately begun to cultivate asparagus with success. Water-melons, also, pumpions, cucumbers, citruls, and all sorts of creeping fruits, are produced here: but as they abound in our own

country, I ſhall only ſay of them, that their ſeeds are uſed for the ſame medicinal purpoſes as they were by the ancient Dutch. Nouriſhing and ſavoury, though flatulent, leguminous roots are found here both in buſhes and large trees. We have alſo a fruit which the Malaians call *focqui*, of about a foot and half long, round, and in thickneſs equalling a man's arm. It is dreſſed with wine, pepper, and vinegar, as the artichoke, and is not inferior in taſte. You may ſee the figure and deſcription of it among my exotic plants, which I ſhall endeavour to let you have next year. What I have ſaid may ſuffice of pot-herbs: let us now turn our thoughts to exerciſe and the paſſions of the mind, that we may at length bring our conference to a concluſion.

DIALOGUE VIII.

Of Exerciſe, Sleep and Watching, Blood-letting, Purging, and the Paſſions of the Mind.

Duræus.

WHAT think you of the other part of diet, which conſiſts in motion and reſt?

Bontius.

To be ſhort—exerciſe ought, without all doubt, to be moderate in this country, as the conſtitutions of the people are relaxed by the warm and moiſt temperament of the air: and it ſhould be taken in the mornings and evenings, when the heat of the ſun is not intenſe. At theſe times proper walking is beneficial, as alſo riding on horſeback, or ſailing in a barge upon the rivers, through flowery meads, and woods of perpetual verdure.

Duræus.

Pray tell me your opinion of ſleep, and the proper time of indulging it.

Bontius.

I have nothing farther to ſay of ſleep, than that it ought to be moderate. But I am afraid of appearing partial ſhould I affirm, that a ſleep in the middle of the day is beneficial to the inhabitants of this country. However, I remain in the opinion, that a meridian nap is not only uſeful here, but almoſt abſolutely neceſſary. And as the air is ſo hot at that time of the day, that a perſon will be fatigued, and ſweat, with the leaſt motion, what ſhould hinder him from paſſing an hour or two in reading ſome agreeable book, or indulging a gentle ſlumber? It is certain that the Spaniards, Italians, and French uſe that practice, though their countries are nothing nigh ſo hot as ours. The caſe is otherwiſe in the northern regions, where people eat a more hearty dinner, and digeſtion is promoted by gentle motion: but here, as we muſt dine more ſparingly, ſleep hinders not the concoction of the aliments, but rather aſſiſts it.

Duræus.

What think you of the retention and evacuation of the humours ?

Bontius.

It is not to be expected that I ſhould ſpeak of ſuch purging and blood-letting as are uſed in the cure of diſeaſes ; but only of ſuch as are inſtituted for the preſervation of the health. Therefore, if the belly is bound, it may very conveniently be opened by excellent laxatives, with which the country ſupplies us ; ſuch as tamarinds, and the pulp of caſſia. Or, if a ſtronger medicine be required, you may add to theſe the extract or ſyrup of rhubarb. With regard to blood-letting, the expediency of that operation is to be determined upon the ſame principle here as in our own country ; namely, by the abſolute or relative fulneſs of the veſſels, or the plethora ad vaſa, and ad vires. If the former exiſts, blood is ſometimes to be drawn plentifully upon the authority of Hippocrates. If the latter is the cauſe of any complaint, venæſection ought to be performed once or twice, that the diſtended organs may be relieved from oppreſſion, and the balance of the circulation reſtored. If the belly ſhould

be looſe, and a diarrhæa or dyſentery apprehended, ſome ſyrup of the juice of pomegranates, or a decoction of its bark may be taken. But as theſe injunctions relate properly to the cure of diſeaſes, we ſhall poſtpone them till a more convenient opportunity.

Duræus.

Something yet remains to be ſaid of the paſſions of the mind.

Bontius.

Much have phyſicians written on theſe and the method of moderating them: but as the emotions of the mind are ſcarcely within our controul, I ſhall only ſay of them, with Horace,

——————————qui niſi ſervit
Imperat; hunc frænis, hunc tu compeſce catenis.

Who but will acknowledge that what is eaſy for one, may be difficult to a perſon of another temperament? Wherefore, to lay down any preciſe rules concerning the paſſions of the mind, would ſavour more of a trifler than philoſopher. Beſides, we ought now to think of breakfaſt, leſt we fall into the predicament of Plautinus, and

while we are diſcourſing of reſtraining the paſſions, ourſelves ſhould be incenſed by hunger. Let us, therefore, get home to breakfaſt, before the day becomes intolerably hot.

Duræus.

You adviſe well: for I am ſenſible that the belly has no ears: and, if you pleaſe, we ſhall make for the town.

Bontius.

With all my heart.

ANIMADVERSIONS

ON

GARCIAS AB ORTA.

TO

MY MOST DEARLY BELOVED BROTHER

WILLIAM BONTIUS

Burgo-maſter of LEYDEN.

AS ſoon as I arrived in the Eaſt Indies, I applied myſelf not only to attain a knowledge of the herbs growing here in Java, but likewiſe to acquire a more perfect idea of the aromatics in which our part of the country is the moſt fruitful. Towards this end, I hoped for great aſſiſtance from the writers who had treated of the ſubject; particularly Garcias ab Orta, ſome time ago Phyſician to the Vice Roy of Goa, and Chriſtopher a Coſta. I began, therefore, to read them more carefully: and ſoon found that they had related many things

upon the authority of others, which, by ocular examination, I diſcovered to be falſe. It muſt be acknowledged, however, that both theſe men, eſpecially Garcias ab Orta, have deſcribed things with fidelity, as far as their own experience could lead them. I write not theſe animadverſions, therefore, with the view of reprehending thoſe authors, and invidiouſly detracting from the merit of men more knowing than myſelf. My deſign is only to ſhew, that the evidence of one ocular witneſs is ſuperior to the teſtimony of ten perſons, who relate their facts from auricular information; which is, tam ficti, pravique tenax, quam nuncia veri. *Nicholas Monardes has written of many things with ſufficient accuracy, though ſometimes he is guilty of neglects. The diligent Charles Cluſius has alſo greatly improved botanical knowledge: but, with regard be it ſpoken, his labour is often uſeleſs, as will afterwards appear. For theſe reaſons, and that I may not ſeem to live to myſelf alone, I ſhall faithfully lay before my countrymen ſuch obſervations as I have made with my eyes, and aſcertained by daily practice in theſe parts: though I am conſcious, that in ſo doing, I ſhall ſacrifice the reputation of the writer to the benevolence and utility of the deſign. Such as they are, then, I deſervedly offer them to you, my deareſt brother, both as I know that you have al-*

ways been a diligent reader of thoſe authors, and I acknowledge you as the maker of my fortune. For you, among others, was my counſeller, that leaving my native country, where the profits of phyſic were ſmall on account of the multitude of medicaſters, I ſhould make for the fertile plains of Java, where, to ſpeak ingenuouſly, virtue is held in ſome greater eſteem. Accept, therefore, theſe animadverſions, as a ſincere, though ſmall token of my brotherly affection for you: and next year, if I am in life, you may expect a full deſcription of plants, ſhrubs and trees, with an accurate delineation of each. *Which exotics, unknown in our country, a curious inquirer into nature will, perhaps, not a little eſteem. To conclude, if theſe animadverſions ſhall be judged worthy of being committed to the preſs, together with my other tracts, namely, my* method of cure, *and* Indian diet *(to be diligently obſerved in this country), and which I have ſubjoined, let them ſee the light: but if they appear not to be ſufficiently poliſhed, keep them at home with yourſelf, as a token of my ſincere affection.*

Your moſt reſpectful Brother,

JAMES BONTIUS.

ANIMADVERSIONS

ON

GARCIAS AB ORTA.

On the FIRST BOOK of GARCIAS AB ORTA.

On CHAPTER III.

Of Altiht, or aſa fœtida, called Hin' by the Javans and Malaians.

THE two preceding chapters have ſo amply treated of amber and aloes, that I have nothing to remark concerning them: but as in this chapter, the author not only denies that ever he had ſeen the herb, but relates nothing certain of its ſhape, I here preſent you with what particulars of aſa fœtida I know.

The plant, from the root of which the aſa is ſqueezed out, grows in great quantity in the Perſian empire, between the cities Lara and Gamaron, the former of which is not far from the ſea, and is frequented by the Dutch and Engliſh merchants. This plant is of two kinds. The firſt is branchy, almoſt like the water-willow; from the leaves, and twigs of

which, cut off, the aſa fœtida is ſqueezed out by a preſs, which, when hardened by the ſun, like other juices, becomes of the conſiſtence of aloes.

The other kind of aſa is far more fruitful, and is the juice preſſed out of the roots of the plant, which reſemble very thick radiſhes; but the leaves reſemble thoſe of the ſpurge. I have in my cuſtody ſome of theſe roots, which were given me by an Armenian merchant, a friend of mine, who brought them from Perſia; and altho' they were dry at the time I received them, yet they had ſo ſtrong a ſmell, as diffuſed itſelf through the whole houſe; and to people not accuſtomed to it, was ſcarcely tolerable. But the Javans, Malaians, and other Indians, affirmed, that they had never ſmelled any thing more fragrant. Amongſt theſe, this juice is called hin', and is as much uſed in dreſſing meat as the author relates: ſo that, together with opium, it is the moſt univerſal commodity in India. And the India company has always a great quantity of this juice in their ſtore-houſes, which the Javans ſell to the inhabitants for money or other goods.

On CHAPTER IV.

Of Opium.

IN the ſecond paragraph of this chapter, the author makes mention of opium, called meſeri, which he takes to be the Thebaic opium: for the celebrated city Thebes ſtood in Egypt; and meſeri, or by contraction miſti, is the name given to Egypt by the Indians.

In the third paragraph he ſays, that the people who uſe opium, appear drowſy. But the truth is, that theſe nations are ſilly in matters of trade: and in the art of war, they muſt yield to the Europeans. Were I to expatiate on the qualities of this juice, I would certainly ſeem to depreciate chymical medicines; I ſhall therefore only ſay, that without the aſſiſtance of opium and opiates, we never could, in theſe hot countries, cure either the dyſentery, cholera, ardent fevers, or other bilious diſeaſes. And with regard to the celebrated medicines in our own country, theriac, mithridate, and philonium, from what

other ingredient, pray, do we expect the advantageous effects they produce, than the opium which enters their compoſition? But nothing can be more unjuſt, than, from the abuſe of any medicine, and that not well prepared, to attempt to diſcredit the proper uſe of one of the nobleſt remedies in the ſhops, often for no reaſon in the world, or an allegation not confirmed by experience. The poorer ſort of Indians extract, from the leaves and twigs of the poppy, a cheaper opium, which they lay in the ſun to harden. This drug they call pouſt; and thoſe who make uſe of it, are, by way of reproach, termed by the rich pouſti, meaning poor or beggarly. The poor again retort upon the rich, by calling them affionii, in ridicule of luxury and delicacies. For affion, or according to ſome amphion, is, among the Arabs and Indians, the name for the opium of the Greeks: whence I am inclined to think that the word opium has been derived from that nation, which has uſed it from time immemorial. The Greeks, however, appear to have known only the bad effects of this medicine, and not to have ſufficiently inveſtigated its true uſe, and glorious qualities. Of opium and the crocus

Indicus, or turmeric, I make here a moſt uſeful extract, to which, as a ſacred anchor, I have recourſe in almoſt deſperate choleras, dyſenteries, phrenitis, and ſpaſms, which are extremely frequent in this country. But of this I have ſpoken more fully in my Indian method of cure.

On CHAPTER V.

O Gum Benzoin.

IN the eighteenth paragraph the author ſays, that the tree producing the benzoin is tall and large. But the benzoin tree here in Java, where the beſt benzoin is gathered, appeared to my eyes in quite a different light. Nay, it ſeems a plant (or if you chuſe to call it a tree) compoſed by the union of ſeveral ſuckers, like the ſmilax aſpera, or ſarſaparilla, only that in the benzoin tree the ſuckers equal or even exceed the thickneſs of the arm; ſo that in the middle the trunk often appears pretty thick, but below and above, the ſuckers are evidently ſeparated. It frequently happens, too, that other things of a different ſpecies from the benzoin tree are included in this coalition. Therefore, if any perſon, not acquainted with the tree, ſhould obſerve the diverſity of leaves, he would be ſurpriſed. But I ſhall afterwards ſhew, that the caſe is the ſame in the trunk of the aloes tree, or calamba: upon cutting the bark of which I have often procured bits of very fragrant benzoin.

As in the 20th paragraph of this chapter the author ſays that little of the gum is gathered, on account of the number of tygers, although it is foreign to my ſubject, I ſhall here add ſomething of that animal. This ravenous wild beaſt, then, is, alas! too frequent in the woods of Java, which we find from many deplorable inſtances of mangled human bodies. For both free men and ſlaves, who go into the woods in order either to hunt or gather fuel, are immediately attacked by this monſter, which, after ſucking out their blood, of which it is extremely greedy, at laſt devours the carcaſes. Having ſaid that it attacks inſidiouſly, I muſt point out an error in Pliny, in other things a moſt ſagacious inquirer into nature, who ſays, b. viii. c. 18. that the tyger is an animal of tremendous velocity; and relates I don't know how many fables of the hunting of its young. But in fact, it is a creature of a ſlow pace, and can ſcarcely overtake a man in running, much leſs a wild beaſt. Hence boars, wild bulls, and ſtags, by ſmelling out this animal, eaſily elude its purſuit. Therefore, it generally haunts the cataracts, or the low woods on the ſides of rivers; whither when the other wild beaſts come to drink, it leaps upon

them obliquely, in the manner in which cats attack rats and mice. In the ſame way it attacks men, and if, as often happens, it ſhould overleap its mark, through too great eagerneſs of ſeizing the prey, roaring all the while, it retreats ſlowly. If it finds itſelf obſerved by a man, it will alſo retire. So that nature has inſtilled ſome dread of mankind into this fierce animal: for otherwiſe we could not live with ſafety even in our villages and towns.

In May 1630, a tyger was caught near the very walls of Batavia, in the preſence of our worthy governour general James Specx, when it roared for ſome days and nights, to the great terror of the neighbourhood. What relates to the ſtrength of this animal, I ſhall reſerve for another place.

On CHAPTER VIII.

Of Lack.

THE author here ſpeaks of the ants which elaborate the lack. I have only to add, that theſe ants have wings, are of a purple colour, and that they fly about among flowers, herbs, ſhrubs, and trees, like the bees, collecting materials for their manufacture. The ants, which have no wings, do not elaborate the lack.

On CHAPTER XIII.

Of Tutty.

GARCIAS ab Orta is here greatly miſtaken, when he ſays that tutty is produced from the aſhes of a tree. This information, however, he confeſſes to have had from hearſay.

It is made of a glutinous earth like clay, which the Indians, who gather it, put into earthen pots made on purpoſe, much ſtronger than thoſe in our country; and adding water to it, ſtir the whole carefully with a ſtick. Then they place them in furnaces till the water is evaporated. Afterwards, removing the dregs which remain at the bottom, they pick off from the ſides of the pots the calcined earth or tutty, which they carefully preſerve for ſale. It is uſed in India as a coſmetic for deſtroying hair, more eſpecially by the women, when they bathe.

The argillaceous earth, of which tutty is made, is found in great quantity in the province of Perſia called Kirmon, as I have often been told

by Perſian and Armenian merchants, who came here to negociate buſineſs, who, that they may make more profit of tutty, or tutyath, in the Perſian language, divide it into the ſtone and a cheaper powder, which they ſell ſeparately, as the purchaſers incline.

On CHAPTER XIV.

Of Ivory, and the Rhinoceros.

IN the 10th paragraph, the author confeſſes that he never had ſeen the rhinoceros: but I have not only ſeen him an hundred times in his den, but alſo wandering through the woods. His ſkin is of a dark aſh-colour like the elephantinum, very rough, with deep plaits on the ſides and back. It is ſo thick as to be impenetrable by a Japan dagger. This beaſt is not armed with ſhields (as it is commonly painted); but theſe plaits counterfeit them: nor is one part of the ſkin harder than any other. Its ſnout reſembles a hog's, but is more acute: in the extremity of which is the horn, which has procured it the denomination of bellua. The colour of the horn is various, as black, white, or ſometimes aſh-coloured. The ſize of its body is nearly the ſame with that of the elephant, only its legs are ſhorter; and, on that account, it is not ſo conſpicuous. It is a harmleſs animal, unleſs provoked, and not carnivorous like the tyger: but eats herbs and twigs, and theſe, too, very prick-

ly; for it has a very hard tongue, But if it be exaſperated, it will toſs up a man and horſe like a fly, whom it will kill with licking, while by the roughneſs of its tongue it lays bare the bones. The Moors eat the fleſh of it; but it is very hard, and requires the iron teeth of Plautinus. I ſhall give you an inſtance of its ferocity. A perſon of my acquaintance told me, that one day when he had gone out on horſeback, with two men in his company, they found a female rhinoceros rolling herſelf in the mud, with her whelp; for this animal delights much in dirt, as well as the ſow and boar The beaſt, upon ſeeing them, aroſe, and retreating ſlowly, puſhed the young one before her with her ſnout; when one of the company raſhly purſued her, and, with a dagger, ſtruck her on the back. No blood iſſued forth; but a little of the ſkin being cut off, there appeared broad white ſtreaks, which the creature ſuffered patiently, till approaching a neighbouring wood, ſhe hid her whelp among the brakes. Then turning round, and grunting horridly, it made towards the rider; but by good chance the horſe, being frightened, leaped back. The rhinoceros, however, ſnatched the horſe's trappings with its mouth, which being

of ſilk it tore; the rider in the mean time flying at full ſpeed, and the rhinoceros ſharply purſuing. The perſecuted horſeman now regained his aſſociates, who, to evade the ſhock of the furious animal, had poſted themſelves behind two huge trees, which were ſcarcely two feet aſunder. The impetuous rhinoceros, relinquiſhing its former object, attacked the companions who were on foot (for they had ſet their horſes a grazing with their legs tied). But whether led by its natural ſtupidity, or impelled by fury, it ſought to puſh its way betwixt the trees, which it made ſhake in a terrible manner. Their extraordinary thickneſs, however, reſiſted its violence, till the men, recovering from their terror, preſented their muſquets, and with repeated charges ſhot the wild beaſt through the head. Then the Mooriſh ſlaves who had come to gather fuel, and been appriſed of the event by the rider, effectually killed it with axes, ſwords, and ſpears; while the company, ſtill quaking at their recent danger, inveighed againſt the temerity of the aſſailant. Thus happily they eſcaped the ferocious animal, which, ſcouring the foreſts in its agony, ſpreads ruin and conſternation around. But this may ſuffice of the rhinoceros. All is true which we are told

of the docility of the elephant; and nothing remains but to remark an error of Pliny and Ælian, who have ſaid that the legs of the elephant are deſtitute of joints, and inflexible. For while men have articulations only at the knees and haunches, the elephant has them alſo at the middle of the legs. Moreover (as Plautus well obſerves) its proboſcis ſerves inſtead of a hand both in taking its food, and conveying it to its mouth.

On CHAPTER XVI.

Of Agallochum, or Aloes-wood, called by the Indians Calambac.

ALoes-wood is produced not only in the iſland Sumatra, ſituate oppoſite to Java, but grows plentifully, and of the beſt kind, in Champac, a country bordering on China, and likewiſe in Cochinchina. And although it is imported thence into Holland without any bark upon it, ſuch, however, is not its native ſtate; but is a conſequence of the frequent coalition of ſtems of various kinds of wood into one tree, as we have obſerved to be the caſe in the benzoin. Nor will this circumſtance appear extraordinary when we reflect, that trees of different kinds are united together by the art of ingrafting. The inhabitants ſeparate the aloes-wood from the reſt in the following manner. When the aloes are cut down, they lay the trunks of them in the ſlime and mud on the ſides of rivers, that the other kinds of wood, become rotten, may ſeparate from the calamba, or aloes. By this preparation the bark is conſumed, being not ſo oily as the wood, which

therefore is leſs obnoxious to worms and putrefaction, and is brought to us in the ſame ſtate as to the ſhops in our country. The aloes-wood is of an aromatic and bitteriſh taſte; whence, probably, it has received its name. A ſcruple of it in powder cures the cholera, which the natives call mordexi; and excellently heals all cold diſorders of the ſtomach and inteſtines. It alſo effectually deſtroys the tineæ, and aſcarides in children. And laſtly, it is uſed at ſacrifices, as incenſe, by the Chineſe and all the heathen Moors.

On CHAPTER XVII.

Of Saunders.

IN the third paragraph, our author informs us, that a great deal of the pale and yellow ſaunders grows in the iſland Tymor. Of the extraordinary effects of that wood I ſhall here relate an account, which was given me by ſome of our merchants, who went there for the ſake of that commodity. In Tymor there is a ſpecies of continual and ardent fever, of the kind of the putrid ſynochus, attended with delirium, and a great alienation of mind. During the exacerbation, which commonly laſts four hours (for although this fever has no perfect remiſſion, yet it has its more violent paroxyſms, like a continual tertian) the behaviour of the ſick is very abſurd; imitating the trade or occupation which they followed when in health, as I have related more at large in my method of cure. They are alſo moleſted with a bulimus and inſatiable canine appetite, ſo that they greedily devour any thing which is put in their way, be it ever ſo naſty: and it is a baſe cuſtom among the ſailors to ſport

with this ſymptom. The inhabitants affirm that this diſorder proceeds from the green bark of ſaunders trees recently cut. For then it ſends forth a poiſonous ſort of vapour which is hurtful to the brain, and quickly produces theſe effects in people of a bad habit of body, and who uſe unwholſome diet, ſuch as our ſailors.

Before the ax is laid to the ſaunders trees, it is common to make an inciſion into the bark, by the ſmell of which, people who are experienced can determine whether or not they are ripe for cutting. The author farther ſays, that the fruit of the ſaunders is nearly equal to the ſize of a cherry. It is not unlike bay berries: for I have ſome of it dry, and it ſtains of a purple and mulberry colour. This fruit is greedily ſwallowed by a kind of thruſh, as are the berries of the aſh in our country, which, diſcharging it again by the belly, plants the hills and vallies with young trees. Hence, although many thouſand trees have been cut down both by the Portugueſe and us, yet the woods are never run out.

As the author mentions an ointment of the powder of ſaunders, I ſhall here ſubjoin the com-

poſition of it, for the benefit of young phyſicians:

℞

Ligni ſantal. optime pulveriſat.
Flor. Champac.
Mogori āā m. i. parum contuſis adde
Rad. curcumæ ℥ii.
Camphor. q. ſ. ad gratum odorem.

Subigantur ſuper planum marmoreum lapide piſtilo, addendo ſub finem

Ol. nuc. Indicæ recent. q. ſ. f. unguentum.

With this ointment both the men and Malaian women anoint their bodies all over, and although it gives a dirty colour, from the turmeric which enters into the compoſition, yet the ſmell of it is very fragrant and wholſome. It allays all immoderate heat of the body, whether occaſioned by fevers, or the ſun. It removes febrile rigors, and watching; and applied to the region of the ſtomach, ſtops a cholera, and ſtrengthens the bowels.

On CHAPTER XVIII.

Of Betele Pynang & Sirii Poa *.

IN the third paragraph Garcias ſays, that *they ſpit out the firſt juice*, and I think ſuch a precaution is very proper; for, otherwiſe, the calx, which is mixed with it, would excoriate the gums and palate. It is alſo to be obſerved, that if the betele, and arecca without the calx, be chewed, the juice, preſſed from it in maſtication, is of a green colour: but upon adding a ſmall quantity of calx, the ſame juice becomes redder than blood. This circumſtance of a redneſs in the ſpittle led me at firſt into a great miſtake; for I thought it proceeded from an hæmoptoe.

My opinion of the uſe of theſe kinds of herbs, I ſhall now deliver in few words. I hold this maſticatory as greatly preferable to tobacco. However, a long and continued uſe of it (and ſuch is the cuſtom in this country) not only erodes the teeth, by the calx it contains, but even

* Theſe are the Indian or Malabar nut.

cauſes them to fall out. Nay, I have frequently ſeen people, who, as yet in their youth, had not a ſingle tooth remaining, by means of the ſirii pynag, or betele, and arecca with the calx, which the Malaians call the head. Hence you will obſerve the Javans, and other Indians, have empty ſpaces in their gums, which the richer ſort fill with teeth made of gold. Beſides, when the fauſel nut, or the fruit of the pynang, which the Javans call pynang mouda, i. e. young, is not ripe, it quickly induces a giddineſs of the head. This ſymptom indeed vaniſhes on eating a little ſalt, or taking a draught of cold water: however, there is reaſon to infer, that a drug, which ſo immediately affects the ſeat of the ſoul, cannot be very ſalutary to the brain and nerves. To conclude, then, I would admit a moderate uſe of it, as a dentifrice and ſweetener of the breath; but condemn the abuſe of it, as much as of tobacco: for, in my opinion, it is the height of madneſs to uſe, as aliment, a ſubſtance which has the efficacy of a violent medicine.

On CHAPTER XX.

Of Mace.

BY permiſſion of the governors, there are brought to this and the circumjacent iſlands, from Banda, large earthen pots, full of nutmegs preſerved in vinegar and ſalt. Theſe nuts, macerated for a day or two, and afterwards gently boiled, we preſerve here with ſugar.

It is to be remarked of the preſerved bark of this nut, and alſo of the nut itſelf, that they ought to be ſparingly uſed in this country; becauſe the oily and fat vapours which they raiſe up to the head, produce obſtructions in the ventricles of the brain; hence, occaſioning ſleepineſs, and even a ſtupor of all the members of the body. And farther, I have ſeen ſome perſons, who, from eating too much of this nut, have lain more than a whole day without the leaſt degree of ſenſe or motion, as if they had been in a carus; a manifeſt proof that the brain and nervous ſyſtem were

not a little affected. Beſides, the inhabitants of Banda, and even ſome of our people, boil a pulſe of the green bark of the nutmeg, which is not unſavoury, and in taſte reſembles the diſh made in Holland of boiled apples: but I have been ingenuouſly told by thoſe who have eat of it, that they actually were affected with the ſtupor and ſleepineſs above mentioned.

On CHAPTER XXII.

Of Pepper.

PEPPER is produced not only in Malabar, as the author ſays in the 10th paragraph, but in great quantity, likewiſe, in the kingdom of Java, eſpecially the province of Bantam. It alſo grows plentifully in Sumatra, which has a prince of its own, not ſubject to the king of Achin, who is the moſt powerful potentate in the iſland: whence our ſhips import of it twice or thrice a year.

What our author tells us, in paragraph 11th, of the green cluſters of pepper being pickled with brine and vinegar, is true. And as there will be occaſion to mention it afterwards, I ſhall juſt obſerve here, that the Indians call that pickle by the general name achar. In the ſame way are preſerved green ginger, the roots of galangal, and the cluſters of cloves; alſo, young cucumbers, which the Portugueſe call agureas; beſides mangos, with onions, garlic and leeks: and

certainly nothing can be more proper in theſe places, both to excite an appetite, and promote digeſtion. As on account of the heat and moiſture of the air in this climate, the parts under the head, particularly the lungs and ſtomach, are infected with catarrhs, the native broom of the country, with Perſian and Surat capers, ſupply remedies for that purpoſe.

In paragraph 12th of the ſame chapter, the author relates the ridiculous opinion of the Indians concerning the quality of pepper; but of that I have formerly taken notice.

On CHAPTER XXIV.

Of Cardamoms.

IN the ſixth paragraph of this chapter, Garcias ab Orta has committed a great miſtake, when he ſays, that the pods of the peaſe hang down from the branches: For I, who have ſeen the cardamom grow in great quantity a thouſand times, can affirm that it reſembles reeds. Not only is it ſimilar to that plant in the ſtem, which is divided by joints, and inwardly ſpungy, not hollow, but alſo in the leaves; only that they are not ſo much ſharpened at the top, like a pyramid, but rather reſemble a cone. The pods grow in this manner. An ear, at firſt green, ſprings forth from the root, like that of the nard; which, opening, diſcloſes flowers reſembling the brook-lime, except that they are mixt of a white and clay colour, of an aromatic and very fragrant flavour. When the ear ripens, it puts on the colour of harveſt wheat; and within it are treaſured the pods containing the ſeed, which is of a greeniſh white colour, beautifully intermixed with purple ſpots. On

becoming dry, it aſſumes the ſcarlet colour, in which it appears in the ſhops. But elſewhere, *in my exotic Indian plants*, I ſhall give you the hiſtory of it, together with an accurate plate, which I have the honour of being the firſt who attempted. The ſeed of the cardamoms affects the palate with a mild and agreeable heat: and I am of opinion, that of all the aromatics, it is the moſt beneficial to the ſtomach and breaſt; for it leaves no empyreuma in the mouth or bowels, like the reſt of that tribe.

On CHAPTER XXVI.

Of the Cocoa Nut.

CHARLES CLUSIUS, in his annotations upon this chapter, relates, that the Indians write their letters upon the leaves of this palm by means of an iron ſtyle. And this they perform ſo artificially as to excel even the moſt elegant writers among us. When I have beheld with what correctneſs the Indian characters (which are Arabic) have been delineated on theſe leaves, my indignation has ſometimes been excited againſt our Europeans, and eſpecially my own countrymen, who ſcarce ever value any thing but their own, and will call theſe people barbarians, although they can expreſs their meaning much more laconically, in a few ſignificant characters, than ours with all their drawling periods, and ſuperfluous multiplicity of words. And farther, notwithſtanding the government of Java may appear to be deſpotic, yet ſo happily is it conducted for the exigencies of the nation, that any perſon, who is not perfectly ſtupid and inſenſible, may ſoon be convinced, that the compendious ſyſtem of policy in this country is, that kings ſhall govern well, and ſubjects obey ſtill better.

On CHAPTER XXVII.

Of Myrobalans.

I Have frequently ſeen the fruit called in Europe, the emblick, and bellerick myrobalans, grow here in Java: and beſide the common kinds, have alſo ſeen another, unknown in our country. It is of a round figure, ſmall and equal, without channeling or notches. It reſembles the other myrobalans, however, in the trunk, leaves, and taſte, only partakes not of their purgative quality, and is ſomewhat more aſtringent upon the palate. Theſe myrobalans are in daily uſe with us in the hoſpitals, for thoſe who are ill of a dyſentery, or cholera. In bilious, febrile heats, they are alſo of great advantage; and what crowns their perfections, they excellently reſiſt putrefaction.

On CHAPTER XXVIII.

Of Tamarinds.

IN the fourth paragraph, Gracias ab Orta obſerves very juſtly, that the leaves of the tamarinds are minutely notched, and reſemble the ſhape and colour of the white chiches. He adds, with equal juſtice, that they are good againſt the eryſipelas, being aſtringent, drying and cold. In taſte, they exactly reſemble wild ſorrel; whence they are highly uſeful in dyſenteries and choleras.

On CHAPTER XXIX.

Of the Pudding-pipe Tree.

I Have ſcarce any thing elſe to remark upon this chapter, than that when the author mentions the places where the caſia grows, he has omitted Java, in the woods of which it is produced in great abundance. Much uſe is made of this pulp, among the Malaians, in diſorders of the urinary paſſages, as alſo in an infected gonorrhea, with the addition of a little powder of boiled turpentine. However, I would not venture to exhibit it in the true dyſentery, which is here extremely frequent, nor in the cholera, without great caution; becauſe, like manna, it is eaſily converted into bile, and therefore, would render more mortal a diſeaſe of itſelf exceedingly dangerous.

In the ſame chapter, a ridiculous opinion is related; namely, that the cows here labour under a continual looſeneſs, by feeding on the leaves of

the caſia tree, &c. But in my opinion, the real cauſe of this flux is, that the places ſituate under or near the equator, are covered with a hot and moiſt atmoſphere, as I have elſewhere remarked, which exciting putrefaction in the bowels, induces fluxes of the inteſtines and liver.

On CHAPTER XXXII.

Of Calamus Aromaticus, or the Sweet Flag.

BESIDE the many important medicinal purpoſes for which calamus aromaticus is employed, it is uſed by the Malaian women in their kitchens, for dreſſing fiſh and fleſh, together with the roots of ginger, turmeric, galangal, and other aromatics, to give a flavour and reliſh to their food, and aſſiſt digeſtion. And here by the way, let me obſerve that theſe nations, though called barbarous by the people of our country, excel both the Poles and Germans in pickling fiſh, who have the aſſurance, however, to arrogate the ſuperiority in that article.

The author ſays, that calamus aromaticus is neither galangal nor acorus: very well indeed, ſeeing that the acorus and galangal ought, by the character of their leaves, to be referred to the corn flag; and calamus aromaticus is a ſpecies of the corn flag.

On CHAPTER XXXIII.

Of Nard.

THE Indian nard grows in great quantity in Java, and is uſed in the kitchen for the ſame purpoſes with calamus aromaticus, and the ſweet-ſmelling ruſh; namely, in ſeaſoning their broths. I have never yet ſeen a green plant of the nard as it grows on the mountains about fourteen leagues from the city of Batavia. For we cannot venture on ſuch an excurſion on account of the Javan robbers, and tygers. We here infuſe the nard in vinegar, in the manner of dry marygold leaves in our country; of which we afterwards make a ſyrup, extremely advantageous in cold affections of the bowels, as in obſtructions of the liver, ſpleen, and meſentery; the laſt of which are ſo frequent in this country, that many people die of a mortal maraſmus, incurred from that cauſe, without any pain, however, as I have remarked in my method of cure. I am certain that vinegar, and this ſyrup of nard, either taken inwardly, or externally applied, is of great efficacy againſt the bites of venomous creatures, as

ſerpents, the ſcolopendra, ſcorpions, and the like. This I diſcovered by an experiment upon a perſon who was bit by the ſerpent which the Portugueſe call Cobra de Capello, *the hooded ſnake*; the bite of which is ſo venomous that the Portugueſe actually regard it as the baſiliſk. But of that I ſhall ſpeak afterwards.

I ſhall add nothing farther of the ſweet-ſmelling ruſh, than that the author is miſtaken, who ſays, that the Indians make no other uſe of it than bedding their horſes, when it is even uſed for ſeaſoning food, as the calamus aromaticus. Wherefore, although it grows plentifully in the woods, it is carefully cultivated in the gardens by the Maldivian women, and is highly beneficial againſt female diſorders, in baths and fomentations. And as it is a ſpecies of graſs, of which even the moſt common kind is celebrated for medicinal qualities, who can deny that this manifeſtly aromatic graſs poſſeſſes far more eſtimable virtues?

On CHAPTER XXXV.

Of Coſtus.

IN this chapter the author aſſerts, that there is only one kind of coſtus, which I alſo affirm. For the diſtinction of three kinds, into which it was divided by the older phyſicians, had been owing to the different appearances of the ſame coſtus, which grows carious by age. The roots of coſtus are brought here from Cambodia in great quantity, as it is a medicine much uſed by all the Indians, and particularly the Chineſe. It is called by the Indian merchants Pucho, and by the Chineſe Potſiok. This coſtus has all the characters of that deſcribed in this chapter. When I firſt ſaw the root of the coſtus, I imagined it to be the white hellebore; and I ſhould ſtill have been of that opinion but for the ſmell; becauſe, when the root of the coſtus is cut through the middle, you will perceive the beginning of as many fibres as are in the hellebore. That this root is adulterated, as the author ſays, I do not believe. For I have ſeen a whole picol, which contains an hundred and twenty pounds, ſold by auction for ten reals.

The author, in another chapter, beſtows many deſerved encomiums on the China root. I ſhall only add to them, that this root, beſide being of uſe in venereal affections, is advantageous in all chronic diſeaſes, which are prevalent, as the cachexy, leucophlegmatia, dropſy, and in the ſpecies of palſy called the barbiers; as I experienced in myſelf, as well as others, when I was ill of that diſorder four months, and, before I began the uſe of the China, could not move my legs or arms, but with difficulty.

On CHAPTER XXXIX.

Of Indian Saffron, or Turmeric.

THE Indian ſaffron, which the author here deſcribes, is nothing elſe than the root called Turmeric in our country. It grows ſo plentifully in the woods, that ſhips might be loaded with it; notwithſtanding which it is cultivated in the gardens. It has an oblong leaf, broader than that of the cardamom, to which it is otherwiſe not unlike. In the ſtem, however, it is different; the cardamom being divided with joints, as a reed, but the turmeric ſmall and equal. I am ſurpriſed that Garcias ab Orta has ſaid ſo little of this noble plant, as it is the moſt uſed of any in all India. It has got the name of ſaffron, not for having any ſimilitude to that of England, which is the beſt in the world; but becauſe the root of it, like the true ſaffron, tinges of a yellow colour.

The Portugueſe call it Saffran da tierra; which is to ſay, ſubterraneous ſaffron. The Malaians call it Borbory. It has a beautiful purple flower,

which makes its appearance at the top of the plant, and reſembles that of the corn-flag. I will be anſwerable that what he ſays, towards the end of the chapter, of his being of opinion that the root of the curcuma may be taken inwardly without any detriment, ought to be changed into, boldly taken: for there is no other preſerve ſo much uſed by the Indians in dreſſing their food. Beſides, it is of the higheſt utility, as a medicine, adminiſtered not only topically, but internally, in all obſtructions of the bowels and meſentery, ſo frequent in this country; in complaints, likewiſe, of the urinary paſſages. In female diſorders, no medicine is ſo much celebrated by the Malaian women as borbory. In facilitating the birth it is a ſovereign remedy: in complaints of the uterus it is ſpecific. And to confirm this opinion by my own experience, I have in reality found nothing ſo beneficial in all the diſorders above-mentioned, as this moſt excellent remedy.

On CHAPTER XL.

Of Galangal.

AS the author, in this chapter, has treated ſufficiently of galangal, I have nothing farther to obſerve, than that the root of it is uſed in the ſame manner with that of green ginger, and to excite an appetite, as capers. I formerly obſerved that this root, when made in a pickle with brine and vinegar, is called by the inhabitants achar.

On CHAPTER XLIV.

Of Snake-Wood.

IN this chapter, the author recommends ſnake-wood as beneficial in the paroxyſms of intermitting fevers: and I myſelf have oftener than once experienced the advantage of ſuch practice, eſpecially in the fever of Tymor, attended with delirium and phrenitis. The ſnake-wood is extremely cloſe in its texture: therefore, when the Indians uſe it, they rub it ſtrongly with water upon a piece of marble, in order to bruiſe it, and then adminiſter it to the ſick in water, or any other liquor. In taſte, it is far more bitter than the aloes. It is good againſt the tinea and aſcarides, and is a powerful antidote againſt the bite of venomous creatures.

In the third paragraph, mention is made of the ſerpent which the Portugueſe call Cobra de capello. That ſerpent, when irritated, diſplays upon its neck two puffed up tumours, of a yellow colour, like what the frogs puſh forth when they

croak: and perhaps theſe bullæ, or tumours, raiſed in our author's mind the idea of a crown. This ſerpent is not much thicker than a man's little finger; with its back of a black colour, and its belly of a dirty yellow.

What is related, in the following paragraph, of a battle betwixt a ferret and this ſerpent, is not improbable, as I have ſeen ſnakes of this kind killed by cats; who, notwithſtanding, never eat of their fleſh, although they greedily devour other kinds of ſerpents, eſpecially the aquatic. The following anecdote may prove the poiſonous nature of this ſpecies of ſerpent: I ſaw a Moor who had been cutting ſome of the reeds which the Indians call *rottang*, and which ſerve them inſtead of ropes. He was bit in the thumb by one of theſe ſerpents. The mark, however, was ſcarcely perceptible. To prevent the venom from making its way far into the body, a very tight ligature was put round his arm, which occaſioned ſuch intolerable pain, as to oblige it to be ſlackened. The poor man immediately expired, and his body ſwelled in a hideous manner. So inſtantaneous, on reaching the heart, were the effects of the virulent poiſon.

On CHAPTER XLV.

Of the Bezoar Stone.

IN the ſecond paragraph of this chapter, the author ſays, that within the true bezoar ſtones there is chaff, or ſome ſuch ſubſtance: and that, if on the outer coat being abraded, there ſucceeds not another circle in the manner of an onion, till the chaff be laid bare, the ſtone is certainly factitious. But the adulteration of it may be better diſcovered by the following methods. If you rub the ſtone with a little lime, and the part ſo rubbed ſhould appear of a red colour, it is certain that the ſtone is genuine. Again, if after carefully weighing the ſtone, you put it into a baſon of water, and when it has remained there two or three hours, you try it a ſecond time in the balance, and find that it is neither increaſed nor diminiſhed in its weight, it is the true bezoar ſtone. But, if on being rubbed with lime, it ſhould betray any rift; or, when taken out of the water, ſhould be found either increaſed or diminiſhed in

weight; you may confidently declare it to be factitious.

In the ſixth paragraph, Garcias ſays, that the bezoar is produced not only in Perſia, but other places there mentioned: however, ſince no body, as far as I know, has hitherto given the origin of that ſtone, nor deſcribed how, or in which way it is produced, I ſhall here deliver a ſhort account of it. The Perſians, then, call this ſtone pa-zahar, a word compounded of pa and zahar; the firſt of which ſignifies *againſt*, and the ſecond *poiſon*, and, when joined together, are equivalent to the Greek derivative *antidote*. We may here ſee the falſhood of thoſe etymologiſts, who would deduce the name of this ſtone from pazar or bazar, when ſuch a ſtone was never ſeen to be ſold. The bezoar ſtone is produced in Perſia in the manner I am about to relate, as I have been aſſuredly informed by Perſian and Armenian merchants of credit.

There is a place in Perſia, called Habanon, at the diſtance of three days journey above Lara, a famous market town, where there grows an herb very much reſembling ſaffron and hermodactyls.

Many flocks of goats are uſed to paſture in the ſame fields, in the ſtomachs of which, from eating this herb, theſe ſtones are generated; which are ſo much valued, by the kings of Perſia, above what are produced in other places, that the great Xa Abas, the laſt emperor of the Perſians, who died in 1628, ordered watchmen to be placed there, to preſerve for him all the bezoar ſtones exceeding a certain weight. For this origin of the bezoar, I have not only the teſtimony of the Perſian and Armenian merchants, but alſo of P. Texeira, a Portugueſe, who, in an elegant treatiſe in the Spaniſh language, on the hiſtory of the kings of Perſia, relates that there is an iſland between Ceylon and the Coromandel coaſt, which the Portugueſe call Iſla de Vacas, the Iſle of Cows, known alſo to our pilots, where there is likewiſe produced a great quantity of bezoar ſtone, by goats which are kept there for the purpoſe. And the ſame author relates, that in the year 1585, when a terrible deluge overflowed the Coromandel coaſt, and the Iſla de Vacas in particular was wholly covered with water, ſuch of the goats as were ſaved by tranſportation, gave over breeding the bezoar ſtones, as

the place whither they were removed afforded none of the herb which produces them: but a few years afterwards, when the iſland reſumed its uſual verdure, and the goats were re-imported to browze on their wonted food, they produced the ſtones as before.

I thought proper to relate theſe facts, as they are confirmed both by our own and the Engliſh merchants. With regard, however, to the hyperbolical virtues, and ſtrange efficacy, attributed to theſe ſtones, a thouſand inſtances will juſtify my detraction. Beſides, I am not by nature ſo prone to credulity, as eaſily to admit the ſuperſtitious accounts of medicines, till I find them confirmed by experience. But you may believe as a truth, that theſe ſtones occaſion as much uneaſineſs to the goats, as thoſe of the kidneys and bladder to men. Theſe goats are not much unlike the European, except that their horns are longer, and erect. The ſkins of ſome of them are beautifully ſpotted like the tyger, of which kind we have two in the fort of Batavia. The goats ſtep with more or leſs eaſe, according to the ſize and number of the ſtones which they

contain; a circumſtance well known to the cunning Armenians and Perſians. I have alſo ſeen Pa-zahar ſtones bred in the ſtomachs of apes. They are of a tapering ſhape, ſometimes longer than the finger, and eſteemed the moſt valuable of all.

On CHAPTER XLVI.

Of the Hog-Stone.

THE Malacca ſtone, which the author here curſorily mentions, recalls to my remembrance another ſort of concretion generated in the gall of hogs, and alſo in the ſtomachs of porcupines with long feathers. The Portugueſe call this ſtone Piedra de Puerco. It is ſoft and fat to the touch, like Spaniſh ſoap. I have two of them in my cuſtody; one taken out of a porcupine, and the other from a boar. This ſtone is infuſed in wine for the cholera, which the Iſlanders call Mordexi, and regard with as much horror as the Dutch do the plague, on account that it ſometimes kills people in a few hours. This ſtone, however, is dangerous to pregnant women, and may occaſion abortions: for I have been told by the Malaian women, that when their menſtrual purgations proceeded not rightly, and they only held this ſtone in their hand, they have found benefit from it. But really, when I reflect on the opinion of mankind, concerning theſe ſtony concretions in the ſtomachs and cavi-

ties of creatures void of reaſon, it appears to me very unaccountable, that the ſtones found in the human bladder and kidneys, and thoſe which are diſcharged with the urine, ſhould be held in no eſtimation; ſeeing that man is a much nobler animal, and lives on more delicate food. It is certain that there are circles in theſe concretions, reſembling what are found in the bezoar. When you rub the external ſurface, it is ſoft and friable (which is alſo the caſe in the bezoar) till you arrive at a ſmall nut in the centre of theſe circles, which ſhows evidently by the redneſs of its colour, that it derived its origin from the kidneys. I ſhall ſay nothing farther of theſe concretions, leſt I ſhould appear to depreciate the bezoardic ſtones, and encourage lithotomiſts to a dangerous zeal for operations. This, at leaſt, I know, that the ſtone found in the human bladder, greatly promotes urine and ſweat. I remember to have exhibited it in 1624 and 25, in a ſcarcity of the bezoardic ſtone, during the terrible plague which ravaged my native Leyden, and the other cities of Holland: and I poſitively affirm, that when mixt with theriac, or mithridate, and a few drops of the oil of amber, or juniper, I found it

a more excellent and efficacious ſudorific than that celebrated cordial *.

* Phyſicians of the preſent age will readily admit that a diaphoreſis might be produced by theſe medicines, without attributing the ſmalleſt effect to the human calculus which entered into the compoſition. It is indeed ſurpriſing, that a perſon, who intimates ſo ſtrongly his opinion of the futility of the Bezoar ſtone, in oppoſition to the reigning prejudice of his time, could ſink into the weakneſs of imagining any ſuperior quality in a ſubſtance of equal inſignificance. But the faſhion in phyſic countenanced the moſt capricious conceits; and ſuch anecdotes, while they amuſe the reader, ſerve to guard againſt the whimſical extravagance in which the underſtandings even of the judicious have been loſt.

ANIMADVERSIONS

ON THE

SECOND BOOK of GARCIAS AB ORTA.

On CHAPTER I.

Of the Tree called Pariz.

THE Portugueſe give this ſhrub the name of Arvore da Notte, becauſe it expands its flowers in the night. Theſe are copiouſly produced in Java, and brought to market by the ſlaves, for making chaplets, and wreathing in the hair of the Malaian women.

In the ſixth paragraph the author ſpeaks of the flowers called Sula Mogori. Theſe flowers grow upon a copſe not unfit for making hedges. It ſcarcely exceeds the height of a man, and produces flowers extremely fragrant and beautiful. A diſtilled liquor is made of the flowers of the tree pariz, and this ſhrub, which is very cordial, and therefore affords extraordinary aſſiſtance

in the faintings frequently attending continual fevers, the cholera and dyſentery.

The author afterwards mentions the flowers he calls Champe, but which the Javans name Champacca, together with the tree that produces them. The leaf of this reſembles that of the peach-tree, but is ſomewhat more thick. The flowers are of various colours; for ſome are of a pale green, ſo that when firſt taken from the tree, they ſeem like a little bundle of leaves; but the ſtamina in the calyx, which are nearly ſuch as in the roſe, evince them to be flowers. Others of them are of an orange colour. All the flowers are equally odoriferous, but affect the head with heavineſs, as camphire does thoſe who are unaccuſtomed to it. The author alſo ſays, that the Indians are greatly addicted to perfumes. He might have added all the Mahommedans. So that you can ſcarcely ever ſee any Indian women go abroad, without a chaplet of theſe flowers on their heads, or wreathed in their hair, to render them more agreeable to their huſbands, and often their lovers.

On CHAPTER III.

Of Negundo and Lagondi, or Eaſtern Privet.

THIS ſhrub is well deſcribed by Proſper Alpinus, under the name of Egyptian Privet, and Alcanna; and certainly it much reſembles it in the leaves But its branches ſtretch farther out, like our water-willow; and the berries, which ſucceed the flowers, are not ſo numerous as thoſe of the privet, or whortles. When ripe they are black; and the colour of the flowers is various, while the flowers of this Indian privet are of a pale blue; and thoſe of the privet in Holland more white than ſnow: whence Virgil,

Alba liguſtra cadunt: Vaccinia nigra leguntur.

For the whortles are the berries of the privet. This ſhrub is likewiſe more fragrant than the privet; on which account it is deſervedly ranked among the aromatics. That Proſper Alpinus confounds this privet with the alcanna, might

ariſe from their being conſidered indiſcriminately in Egypt. For the leaves of the alcanna are ſimilar to thoſe of the privet, only ſomewhat leſs. Beſides, the leaves of the alcanna ſtain of a beautiful red colour, if they are bruiſed with a little lime, upon marble, and macerated a night in water. With this paint, the Javans of both ſexes ſtain their nails and lips; and the Perſians and Turks elegantly dye the tails of their horſes with this red colour. Both ſhrubs grow in Java. They are carefully cultivated in the gardens, and held in ſo much eſteem by the Indian nations, that they are uſed in almoſt all diſeaſes, in baths, fomentations, and poultices. Nay, they look upon them almoſt as divine: and certainly they well ſupply the want of melilot and camomile in this country. I am confident that a better diſcutient than the leaves of theſe ſhrubs is not to be found: and in all pains, even thoſe which are inveterate, they are highly anodyne. A fomentation of them promotes the menſtrual diſcharge, facilitates the birth, and cures all diſorders of the uterus. Inwardly taken, this medicine provokes urine, affords relief in complaints of the kidneys and bladder,

and affuages the pains of the cholic. In a word, the panacea of the antients was nothing to this of ours. The author calls this ſhrub Negundo, and Niergundo ; but the Javans name it Lagondi.

On CHAPTER IV.

Of the Jaaca Fruit.

BESIDE the ſpecies of jaaca here deſcribed, there likewiſe grows another in Java, on a very high and thick tree, with leaves reſembling thoſe of the plane, but much greener, and not covered with down. It bears fruit far leſs than the other Jaaca, and not of the ſame kind, but of ſomewhat a finer taſte, which hangs not from the trunk, but the branches. This fruit is nauſeating, and, as the author obſerves, unwholſome.

On CHAPTER V.

Of Jangomas.

THE jangomas are a ſpecies of the ſloe-tree, or black thorn, ſuch as in Holland we call Sleen. When ripe they are of a yellow colour; whereas ours are of a dark purple. The jangomas have a very aſtringent taſte. The plant grows to near about the height of a cherry-tree, and is prickly; whence Proſper Alpinus called it Paliurus; as Virgil ſays,

Carduis & Spinis ſurgit Paliurus acutis.

In reſpect of quality this fruit is cold and dry; and is therefore of advantage in the cholera, dyſentery, and ardent fevers; the heat of which it allays, and reſtrains the orgaſm of the bile. Whence we here make a ſyrup of it, no leſs uſeful than the juice of acacia, ſo much celebrated by the ancients.

On CHAPTER XV.

Of the Carambola.

I Am ſurpriſed that Garcias ab Orta has given ſo ſlight a deſcription of this tree, as the fruit which it produces deſerves to be ranked among the moſt wholſome in India. The leaves of it are ſomewhat ſimilar to the prune, and underneath are white like the poplar. It bears flowers of a beautiful pale red, the ſize of which, as contained in cluſters, is about equal to that of the flowers of the pimpernel. When the flowers fall off, they are ſucceeded by oblong quadrangular pods, a pentagonal ſpace often intervening betwixt the different parts, as in the pods containing the ſeed of the corona imperialis of Cluſius. The taſte of this fruit is ſubacid and aſtringent. Before maturity, it is pickled with brine and vinegar, as we have obſerved of other kinds. A ſyrup is alſo made of it, which, like that of billingbing, is of advantage in the chole-

ra, dyſentery, and ardent fevers; for which purpoſes it is preſerved with ſugar by the Chineſe. The fruit, when ripe, is of a yellowiſh colour, and ſweet vinous taſte.

FINIS.

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